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EDITORIAL.

Ourselves.

COMMENCING with the next January number, important changes will be made in the form and arrangement of the matter in NEW REMEDIES which, it is believed, will considerably increase its value to readers and advertisers. These changes will not be limited to the portion of the journal under the control of the editors, but will extend to the advertising department.

In order to bring these changes to the early notice of all classes interested, the January number will be issued soon after the first of December, and to enable this to be done without disturbing the succession of numbers in too great a degree, the numbers intervening will be published at earlier dates than usual. The succeeding numbers will appear at slightly longer intervals, until the usual date for publication is reached.

We do not often refer to matters connected with the advertising department, since it is very well able to take care of itself, as those who are familiar with its growth and management since the journal became a monthly publication can very well appreciate; but we take the liberty of saying that there are few opportunities for advertising which will compare, either in extent or cost, with that which the publication of the January number will offer. Over twenty-five thousand copies of the number will be sent to reliable addresses; and the advertising rates for that special number will be unusually low.

National Legislation Relative to the Practice of Pharmacy.

OUR readers are well aware that we have always favored the efforts that are being made to secure the enactment of State laws governing the qualifications of those who engage in the practice of pharmacy, and prohibiting those who are not so qualified from selling drugs of a poisonous character or preparing prescriptions. That the interests of many communities require such protection there can be little doubt. Of late, however, it has been proposed in several State pharmaceutical associations, and still more recently in the American Pharmaceutical Association, that Congress should be petitioned to enact a law that would apply to the entire country, and we wish now to remark that the advocates of such a measure appear to quite misunderstand the relation of the general government to the several States if they think such a project either advisable or possible. Legislation upon such matters is entirely foreign to the province of Congress, and belongs, unquestionably, to each State.

The advocates of this measure will accomplish nothing, and had much better use their influence at home in securing the enactment of State laws.

The Washington Meetings.

THE accounts which we publish this month of the meetings in Washington show increasing interest in the advancement of legitimate pharmacy. Few meetings of the American Pharmaceutical Association can compare in attendance, character of the proceedings, influence, or practical results with the one just held. So many matters of general interest were presented that the time hardly sufficed for their consideration, and the rainstorms which interfered somewhat with the elaborate arrangements of the Entertainment Committee were not an unqualified evil, for they enabled the Association to go through, more thoroughly than it would otherwise have done, with its programme of business. All of the papers presented were of general and practical value, and some were remarkably good. We are able to publish a part of them in this number, and the remainder will follow.

The pharmacists of Washington and Georgetown were especially attentive to the comfort and entertainment of those who attended the meeting, and the entire session will long be remembered as one of the most enjoyable the Association has held.

In the advertising department will be found an extended report of the exhibition, which was likewise of unusual merit.

Respecting the meeting of the "National Retail Druggists' Association," we must confess to some disappointment. After such earnest efforts on the part of its proposers, aided by prominent pharmaceutical journals which gave to it, for several issues, much of their space, the meeting appeared to accomplish but little towards the elaboration of a feasible plan for correcting trade abuses. There was a great deal of desultory discussion and much moving and amending, but the practical result was the appointment of a very efficient Executive Committee, who have essentially the entire management of the question of rebate left to them. An extended report of the discussion would consume more space than we can afford, but we have given

elsewhere the principal results of the meeting. The Executive Committee's circular, containing the report of the whole matter, will doubtless soon reach all of our pharmaceutical readers.

The International Pharmaceutical Exhibition.

THE exhibition held in Vienna from the 11th to 25th of August was not participated in to so general an extent as could have been hoped, owing, probably, to the fact that it was started for the purposes of local charity, and the international feature was something of an after-thought. At all events, the arrangements for the accommodation of foreign exhibitors were too limited to have drawn out very numerous contributions. As it was, of the 320 exhibitors, 205 were Austrian, 52 German, 26 French 8 Swiss, 7 American, 6 English, 6 Russian, 5 Spanish, 3 Italian, 3 Turkish, 2 Norwegian; and Swedish, Danish, Belgian, Dutch, Portuguese, and Roumanian, 1 each. Three grades of diplomas were awarded: 1. Diploma of Honor, for the best, most excellent, and most perfect works. 2. Diploma of the gold medal, for discoveries, improvements, and the introduction of useful objects. 3. Diploma of the silver medal, for serviceable contributions to pharmacy or its allied branches. Nine of the exhibits were entered with the understanding that they were not in competition, and 180 of the 311 remaining received prizes, as follows: To 27 Diplomas of honor, including E. Merck, manufacturing chemist, of Darmstardt; Schimmel & Co., ethereal oils, of Leipzig and New York; Gehe & Co., druggists and manufacturers, of Dresden; Liebig's Extract of Meat Co., of London and Frey Bentus, *et al.*

Sixty-seven diplomas of the gold medal, including Dr. Hans Hager, editor, of Vienna; C. Mehu, pharmacist, of Paris; Parke, Davis & Co., of Detroit, U. S. of A.; Math. Rozsnyay, of Arad; Seabury & Johnson, of New York, *et al.*

Eighty-six diplomas of the silver medal, including William Wood & Co., publishers, New York; Fletcher, Fletcher & Stephenson, of London; E. Dietrich, of Helfenberg, *et al.*

Meetings in October.

THE most notable meetings during this month which will interest pharmacists are those of the Erie County Association, on the 1st; the Davenport (Iowa) and St. Joseph (Mo.) Associations, on the 2d; the Rhode Island Association (at Providence), on the 3d; the Kings Co. (N. Y.) Association, on the 9th; the California Society, the N. Y. German Apothecaries' Society, and the Lancaster Co. (Pa.) Association, on the 11th; the St. Joseph (Mo.) Association on the 16th; and the Boston Druggists' Association on the 23d.

The Association of Wholesale Druggists meets in New York in this month.

Correction.

ON page 282 of our last number, in the article on *Hypophosphorous Acid*, lines 18 and 17, read "precipitate" in place of "clear liquid," and "the" in place of "precipitate."

Regarding the temperature mentioned on line 15, namely, 160° F., we would say that we have conducted the operation at about this temperature ourselves without any decomposition taking place. But Th. Salzer (*Liebig's Ann. Chem.*, 187, 2, 3) states that, to obtain it in a *syrupy* condition, it must be concentrated at a temperature not exceeding 30° C. (86° F.). Hence, care should be taken not to evaporate the liquid—in the formula given on p. 282 of our last number—much below one hundred and fifty-five parts, excepting at a *low* temperature.

We would advise great caution in working both with the strong acid and also with the alkaline hypophosphites, as both have the disagreeable property of exploding under certain conditions (see NEW REM., 1878, p. 165).

[ORIGINAL COMMUNICATION.]

A Decimal Dozen.

BY GEORGE HARDY.

THE use of the duodecimal system of calculation, in the buying and selling of proprietary and other articles on a numerical basis, is a practice which seems to have hitherto escaped the attention of the nineteenth century reformer.

The inconsistency of using the dozen and gross, as they stand at present, in conjunction with a decimal coinage, may not of itself have appealed very forcibly to our ideas of the eternal fitness of things, but it is certain that some of us have had practical experience of its inconvenience.

For example, take an inventory of stock or a bill of odd lots of patent medicines. Generally, one of these documents will have a lot of items on it consisting of a number of dozens and fraction of dozens priced by the gross. Now, the rapid and accurate extension of these require some figuring.

It is not, for instance, evident at a glance that $5.41 is the price of seven and five-twelfth dozens at $8.75 per gross. Of course, a man who knows his business will employ numerous "short cuts" in this class of calculations, but, at the same time, there is always a point beyond which abbreviation is impossible, and the most expert accountant will spend a considerable portion of his time over a bill containing many of these fractional charges.

The remedy is simple. Let the present dozen and gross be represented in the new system respectively by ten and one hundred articles. In order to avoid confusion, it would be necessary to have a new appellation for the ten at least, and in imitation of the metric system, we might call ten articles a "decan." In view of the certain and general adoption of the metric system, it would also be necessary, in abbreviating, to use a symbol which could not readily be mistaken for any of the metric "decas."

The "decan" might therefore be written ⫻, the hundred, of course, being written as at present ℄.

The question of appellaion is, however, secondary in importance to that of the introduction of the system. It will probably not require much considertion to see that the number *twelve*, however much we may be inclined to venerate the importance attached to it from the earliest times, is, together with its multiple, quite unsuited to the commercial wants of the present age.

By using the proposed substitute, it need scarcely be said that all calculations involving the use of the "decan" would be much simplified, and the happiness of the American druggist, retail or wholesale, already enhanced by the prospective abolition of the familiar formula—12 articles = 1 dozen; 12 dozens = 1 gross—would only require for its transcendant completeness the general introduction of the metric system.

MANSFIELD VALLEY, PA., September 7th, 1883.

Historical Notes on Bromine.

BY PROF. JAMES F. BABCOCK, BOSTON.

BROMINE was discovered in 1826, by Antoine Jerome Balard, assistant to Anglada, professor of materia medica and therapeutics of the faculty of sciences, at Montpellier.

In the preceding year, Balard had suggested a modified application of the starch paste for iodine, which consisted in the addition of some starch paste and dilute sulphuric acid to the solution to be tested, and then pouring carefully upon it an aqueous solution of chlorine, when at the point of contact a zone of blue color was produced. By this means he had been able to detect iodine in bodies where its presence had not before been found—in various marine molluscs and polyps, and particularly in the water of the salt marshes near Montpellier, fed by the Mediterranean.*

* Note pour servir à l'histoire naturelle de l'iode.—*Ann. de Chim. et Phys.*, xxviii., 178.

In the application of this test to the mother waters of the salt works of Montpellier, he obtained not only a blue but a yellow color with starch, accompanied with a peculiar penetrating smell. He was at first led to believe that this was due to the production of the chloride of iodine, but repeated trials satisfied him that "it was a simple substance possessing in its chemical relations the greatest resemblance to chlorine and iodine, forming analogous combinations, but always presenting physical and chemical properties which furnished the strongest reasons for distinguishing it from them." He accordingly drew up a memoir, accompanied by specimens of the new element, which was presented to the Academy of Sciences, at Paris, July 3d, 1826, and referred for examination to Vauquelin, Thenard and Gay-Lussac.*

Balard, at the suggestion of Anglada, had named the new substance *muride* (from *muria*, brine), but by the advice of Gay-Lussac the name was changed to *brome* (in English bromine, from the Greek $\beta\rho\omega\mu\iota o\varsigma$, a bad smell †. Balard, in his account of bromine, described its principal properties and combinations, *i. e.*, with hydrogen, oxygen, chlorine, iodine, phosphorus, sulphur, carbon, potassium, ammonium, barium, magnesium, lead, tin, mercury, silver, gold, and platinum.

The report of the academicians, drawn up by Gay-Lussac,‡ concluded as follows:

"The discovery of bromine is a very important acquisition to chemistry, and gives to M. Balard an honorable rank in the career of the sciences. We are of opinion, that this young chemist is every way worthy of the encouragement of the Academy, and we have the honor to propose that his memoir should be printed in the *Recueil des Savans étrangers*."

Liebig, immediately upon hearing of Balard's discovery, sought for bromine in the waters of some of the salt springs of Germany, and from thirty pounds of the mother water of the spring of Theodorshall, near Kreuznach, he obtained 3½ drachms of bromine, with which he was able to verify many of the results of Balard, and he adds, "Je n'ai aperçu aucun phénomène contraire aux conclusions auxquelles M. Balard a été conduit par ses expériences."§

Serrulas, in 1827, still further studied the new element and obtained its cyanide and hydrobromic ether.‖

The same observer was the first to describe, in July, 1827, the bromide of selenium,¶ and in October of the same year he obtained the bromides of bismuth, of arsenic, and of antimony.**

Löwig completed the study of bromine in 1829 in a monograph, *Das Brom und seine chemischen Verhältnisse*, published at Heidelberg in 1829.††

Liebig, in a discussion with Laurent in 1838,‡‡ declared that some time previous to Balard's discovery, he had obtained bromine, but had mistaken it for the chloride of iodine. The following is Liebig's relation of the circumstances:

"No greater misfortune can befall a chemist than being unable to disengage himself from preconceived ideas, and yielding to the bias of his mind to account for all phenomena, not agreeing with his conceptions, by explanations not founded on experiment. . . .

"I know a chemist who, while at Creuznach, many years ago, undertook an investigation of the mother-liquor from the salt-works. He found iodine in it; he observed, moreover, that the iodide of starch turned a fiery yellow by standing overnight. The phenomenon struck him; he procured a large quantity of the mother-liquor, saturated it with chlorine, and obtained by distillation a considerable amount of a liquid coloring starch yellow, and possessing the external properties of chloride of iodine, but differing in many of its reactions from the latter compound.

"He explained, however, every discrepancy most satisfactorily to himself,—he contrived for himself a theory on it.

"Several months later, he received the splendid paper of M. Balard, and, on the very same day, he was in a condition to publish a series of experiments on the behavior of bromine with iron, platinum, and carbon, for Balard's bromine stood in his laboratory labelled liquid chloride of iodine. Since that time, he makes no more theories unless they are supported and confirmed by unequivocal experiments; and I can positively assert that he has not fared badly by so doing."*

Ann. de Chim. et Phys., xxxii., 337; translated in Thompson's *Annals of Philosophy*, xii., 411.

† See a letter of M. Anglada in *Ann. de Chim. et Phys.*, xxxiii., 222.

‡ *Ann. de Chim. et Phys.*, xxxii., 382.

§ *Ann. de Chim. et Phys.*, xxxiii., 330.

In the *Annales de Chimie et de Physique* (September, 1827, vol. xxxvi.), occurs the following interesting note:

"M. Balard, to whom we owe the discovery of bromine, and the knowledge of its principal properties, has entered upon its manufacture on a large scale. Various improvements which he has introduced in the process by which bromine is obtained, enables him to offer it for sale at the price of four francs per drachm, fourteen francs per half ounce, and twenty-three francs per ounce. Chemists who desire to make further researches on this remarkable substance, can procure it at the above price at his pharmacy, Rue Argenterie at Montpellier, or at Paris at the establishment of M. Quesneville, where M. Balard has established an agency."

‖ *Ann. de Chim. et Phys.*, xxxiv., 95.

¶ *Ann. de Chim. et Phys.*, xxxv., 349.

** *Ann. de Chim. et Phys.*, xxxviii., 318.

†† Translated in *Amer. Journ. Pharm.*, vol. II., p. 89 and p. 169.

‡‡ *Ueber Laurent's Theorie der organischen Verbindungen.*—*Ann. Chem. Pharm.*, xxv., 29.

* *The Life-Work of Liebig by A. W. Hofman*, London, 1876, p. 67.

[ORIGINAL COMMUNICATION.]

Naphthol as an Antiseptic and Disinfectant.

SOME time ago we were informed by the President of the Albany Aniline and Chemical Works, that one of their chemists had found redistilled and crystallized naphthol to be a most excellent disinfectant, deodorizer and antiseptic. He was led to this by the consideration that naphthol was a near relative of phenol. The substance has been experimented with at the Albany Hospital, and the resident physician of the latter, W. W. Scofield, M.D., had found this statement amply confirmed, as the following letter to the President of the works will show, which has been placed at our disposal:

"We began using your naphthol last May upon a case of chronic ulceration of both legs. The odor, before using naphthol, was so offensive as to nauseate the patients about the ward, and even to produce vomiting in several cases. After applying a solution of naphthol for two days, the odor was so slight that it gave no offence to those who before were most sensitive. Our success in this case induced us to give the drug further trial. We have since used it on chronic ulcerations in ano, urinary fistulæ, abscesses, cases after removal of necrosed bone, amputations of the leg and arm, lacerated and contused wounds, and altogether for about two months in every case in which there was an offensive odor.

"Our results have been satisfactory in every case and that, too, with a solution containing 15 grains of crystallized naphthol [see below] in one pint of water.

"We have also used naphthol to disinfect rooms by subliming (distilling) a quantity in a shallow iron dish heated by an alcohol flame. The crystals, in minute division, penetrate every portion of the room where air can enter, and destroy all offensive odors.

"When applied in substance to granulations, naphthol produces redness and smarting, but the solution prepared as above causes no discomfort, and seems to stimulate new tissue.

"Naphthol is now being used for all surgical dressings in our hospital, to the exclusion of carbolic acid.

"WALTER W. SCOFIELD, M.D."

We have received a sample of the naphthol made at the Albany works, and find it to be remarkably free from all unpleasant odor (so commonly adherent to coal-tar products), and to be distinctly crystalline, which fact insures its being nearly free from more than traces of impurities.

Its color is grayish white, with a dull lustre of small satiny, mica-like crystals.

The experiments so far conducted with the substance show that it is a powerful agent either to *prevent* or to *arrest* fermentation, to prevent decomposition in organic bodies, and to be an excellent deodorizer.

At the Albany Hospital it was ascertained that a solution of about 1 in 1,000 of water acted even better than carbolic acid, and it has been substituted for the latter by placing basins containing such a solution around in the different wards. In these cases it has the advantage that it has no perceptible smell of its own, and cannot merely hide foreign odors.

In the experience of the chemists of the works, naphthol has not shown itself to be poisonous. When applied to tender membranes, it causes a biting sensation at first, but this disappears, together with all irritation, in the course of a short time. It never causes such an irritation of the skin as is commonly experienced when working with phenol . . .

In view of the probability that naphthol will yet play an important rôle as a medicine and as a surgical or sanitary agent, a brief outline of its previous history will be of interest.

After it had been ascertained that some of the products of the distillation of coal-tar possessed valuable antiseptic and parasiticidal properties—among them chiefly phenol, cresol and benzol—certain practitioners, particularly dermatologists, were led by the frequent remonstrances of their patients (about the disagreeable odor, etc., of these substances), to search for another constituent of coal-tar which might possess the good qualities of the above-named agents, without their disagreeable properties. By the advice of E. Ludwig, Professor Kaposi thereupon tried β-naphthol in 1881, and the experiments made with it proved the suggestion to have been a very happy one.

We have already, in a previous issue (NEW REM., 1883, p. 91), explained the chemistry of naphthol and shown that there are two such bodies, distinguished respectively as α- and β-naphthol. That which is used medicinally is the latter body, namely β-naphthol. The other being much more difficult to prepare, has so far not been experimented with. We shall hereafter use the simple term "*naphthol*" to denote the substance designated in chemical language as β-naphthol.

We would mention here, incidentally, that the crude commercial β-naphthol, which is in form of dark brownish-violet lumps of crystalline structure, should never be used for medicinal purposes.

Naphthol, either in substance or in hydro-alcoholic solution, is readily absorbed by the skin. It is eliminated in the urine partly as naphthol-sulphuric acid, and partly in an unchanged condition. As it is made probable, from some observations of Kaposi, that it is not eliminated in a regular, progressive ratio, but that it accumulates and is thrown out in larger instalments at intervals, which process may produce disturbances of the kidneys, it is always advisable, when using naphthol *in substance*, as an application for certain skin diseases, and particularly on a large surface, to control the urine carefully, and altogether to refrain from using it in cases of nephritis. The following is Lustgarten's

Method of Testing the Urine for Naphthol.

About 500 cubic centimeters of the urine are strongly acidulated with hydrochloric acid, and about one-half of it distilled by means of a current of steam. The distillate is shaken out with ether, the ethereal solution separated, evaporated to dryness, the residue dissolved in a small quantity of strong solution of potash, then gently warmed and mixed with a drop of chloroform, or better still, with a few crystals of chloral hydrate. If any naphthol was present, a magnificent greenish-blue color is at once produced. But, since the alkaline solution has always a more or less brownish-yellow tint, the above coloration is more green than blue. The reaction appears particularly well if the residue of the ethereal solution is dissolved in alcohol, mixed with a little animal charcoal, slightly warmed, filtered again evaporated, and the residue tested as above.

That naphthol belongs to the energetic agents is shown by the observations of Neisser, who found that 1 gm., in concentrated warm solution, killed rabbits of 1,000 grms. in weight, and 1.5 grms. killed dogs of 4,500 grms. within two and a half to twelve hours. In the case of rabbits, death was preceded by violent convulsions, in that of dogs by profuse salivation and great restlessness.

Regarding its local action, Kaposi found, as the result of about 1,000 cases, that a solution of naphthol in oil or fat even up to 15 or 20% (or still higher) does not at all or but very slightly irritate the *normal* skin even after repeated inunction. An already irritated skin, however, perhaps while still in the stage of eczema squamosum, will be brought to a state of acute inflammation, even by a single application of a one-per-cent salve. An alcoholic solution, containing one-half to one per cent, acts likewise quite energetically upon the healthy skin, producing upon the place of application a nettle-rash sometimes spreading beyond the limits of the original locality.

Though naphthol is almost free from odor and color, yet, when it remains for some time on the skin, a peculiar odor is evolved, which is communicated to the air of the room, and is quite characteristic of naphthol. This is a statement made by A. Jarisch; whether the naphthol made at the Albany works has the same property remains to be seen.

A special advantage of naphthol applications is their cleanliness and the fact that they do not color or discolor either the skin or hair. Linen, cotton, and other fabrics, however, moistened with solution or ointment of naphthol, acquire, on protracted exposure to the air, a rose-red color, which may be removed by hot water and soap.

The skin diseases in which naphthol has been used with success are the following:

1. *Itch.* The patients are thoroughly anointed in the affected places with the compound naphthol ointment (10%, see below) (without having previously been washed), and then dusted with starch. A single, but thorough application is enough.

In the case of children, the amount of naphthol is to be reduced one-half.

2. *Eczema.* Only in the squamous condition has a weak (½ to 1%) naphthol ointment given satisfactory results. On the other hand, it is an excellent application in the special form of eczema accompanying scabies, prurigo, and ichthyosis.

3. *Prurigo.* Kaposi treats all cases of prurigo with a 5% naphthol salve, to be rubbed in once in the evening, and dusted over with starch. The success is reported to be all that could be desired.

In cases of hyperidrosis of the hands or soles of the feet, or axilla, a 5% alcoholic solution, applied once or twice daily, and the place dusted over with starch (or with a mixture of 92 parts of starch and 8 parts of naphthol), was found to be almost always effective.

The following combinations have been recommended by Kaposi and others:

1. *Compound Naphthol Ointment.*

Itch ointment.

℞ Naphthol	10 parts.
Cretæ albæ pulv	10 "
Saponis viridis	40 "
Adipis	40 "

2. *Naphthol Oil.*

℞ Naphthol	1.0 part.
Ol. olivæ, (or Ol. morrhuæ, or Ol. amygdalæ, etc.)	99.0 part.

(In eczema crustosum, pediculosis capillitii, herpes tonsurans, favus.)

3. *Naphthol Solution.*

℞ Naphthol	1.0 part.
Glycerini	5.0 "
Alcohol	94.0 "

(In eczema marginatum, to be brushed on during five to eight days, until a light-brown, smooth crust is formed.)

4. *Naphthol Application*, recommended in eczema marginatum:

℞ Naphthol	1.0 part.
Lac. sulphur	5.0 "
Glycerini	2.5 "
Tinct. sapon. vir	20.0 "
Alcoholis	100.0 "

5. *Naphthol Application*, to be used in acne vulgaris and rosacea, sycosis, and lupus erythematosus:

℞ Naphthol	1.0 part.
Lac. sulphur	10.0 "
Balsam Peruv	2.0 "
Tr. saponis vir	25.0 "
Spir. vini gall.	50.0 "

6. *Naphthol Solution*, for hyperidrosis of the hands and feet:

℞ Naphthol	5.0 parts.
Glycerini	10.0 "
Alcoholis	100.0 "

It will be of advantage to give, in this place, the more prominent characteristics and properties of naphthol:

Pure naphthol is in form of white, shining needles. As usually met with, it is either in form of whitish, or yellowish-white, or grayish, lustrous crystalline grains. The crude substance occurs in deep violet-brown or lighter lumps easily reducible to powder. When pure it is nearly (or entirely?) odorless; it has a sharp, burning taste, and its powder, when inhaled up into the nostrils, excites violent sneezing. It is but slightly soluble in boiling water, but very easily in alcohol, ether, chloroform, benzol, oils and fats. The saturated aqueous solution at 25° C. contains about 1 part of naphthol in 550. When gently heated, it sublimes, and it may be distilled with steam. This property should be borne in mind, when making a solution of it in hot water.

A large quantity of solution (say a barrel) is best made by dissolving the requisite amount of naphthol in about twice its weight of alcohol; then, having put the necessary weight of hot water in the barrel, add the alcoholic solution gradually, stirring or shaking after each addition, until all is added and the naphthol is dissolved. Then allow to cool.*

A easy Method of preparing the Paraffins.

THE preparation of the so-called paraffins, that is, the saturated hydrocarbous of the fatty series, as methane, ethane, propane, butane, etc., has heretofore been a somewhat difficult operation. One of the students in the laboratory of the University of Tübingen, Mr. B. Köhnlein, has, however, discovered a new general method for easily preparing them. It consists in heating the pure dry iodides of the corresponding paraffins with pure, absolutely anhydrous chloride of aluminium (free from excess of chlorine), in a vacuum for several hours at a temperature between 120° and 150° C.—*Ber. d. Deutsch. Chem. Ges.*, 1883, 560.

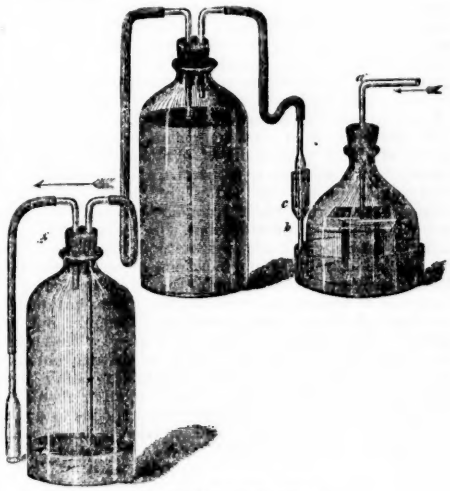
* We append a list of the *therapeutic* literature of naphthol: M. Kaposi. Ueber ein neues Heilmittel gegen Hautkrankheiten. *Wien. med. Wochenschr.*, 1881, 22-23.—A. Neisser, Die Hämoglobin erzeugende Wirkung des Naphthols. *Cntlbl. f. d. med. Wissensch.*, 1881, 30.—J. Mauthner, Ueber das Verhalten des β-Naphthols im Organismus nach Application auf die Haut, *Wr. med. Jahrb.*, 1881, 201.—Lustgarten, Nachweis von Chloroform, Jodoform und Naphthol. *Monatsch. f. Chem.*, 1883, 715.—M. Kaposi, Indicationen und Methoden der Behandlung der Hautkrankheiten mittelst Naphthol. *Wien. med. Wochensch.*, 1881, 30-31.—A. Jarisch, Chrysarobin, Pyrogallussäure, Naphthol. *Ctrlbl. f. d. ges. Therapie*, 1883, II.—Balmanno Squire, Experiments with Naphthol. *Brit. Med. Journ.*, 1882, 2.—W. F. Loebisch, Die neueren Arzneimittel in ihrer Anwendung und Wirkung. 8vo. Wien u. Leipzig. 1883. p. 114 (from which work we have taken a considerable portion of the therapeutic history and uses of naphthol).

Regarding the *chemical* literature of naphthol, which is very extensive, it will be sufficient to consult our last February number, pg. 91. Those who wish to go deeper may consult the more recent works on organic chemistry.

A Mercury-Cell as a Substitute for India-Rubber Tubing.

IT affords me pleasure to learn that the manner of joining different glass tubes of a chemical apparatus, which was recommended by me some time ago, namely, by means of mercury instead of India-rubber, is now also used and recommended by Michaelis.*

Although water might have been used, in place of mercury, in the case mentioned by Michaelis, where the benzol and other vapors exert no pressure upon the walls of the apparatus, and where the vapors are insoluble in water, still the peculiar method of putting the apparatus together, —with avoidance of India-rubber—is of great advantage. And it is of paramount importance in the case of exact chemical analyses, as in the determination of carbonic acid in the air, in the examination of the respiratory processes taking place in plants or animals, because any other methods of trapping or occlusion, such as cork, rubber, etc., are constantly affected by the oxygen of the air and themselves yield some carbonic acid gas.



Karsten's Mercury Joint.

The same form of apparatus is likewise very appropriate for aspirators, as is shown by the accompanying illustration.† It will be seen that the connection of the aspirating flask with the other part of the apparatus is very easily and rapidly accomplished. In the special apparatus here illustrated, the outer tube *c* is fused upon the main-tube *b*, although it might have been simply connected with it by a cork (see above, p. 72), as I have already proposed in 1872.

The construction of Michaelis' apparatus appears to be less practical, since the heavy mercury constantly tends to lift up the glass immersed in it.—H. KARSTEN, in *Pharm. Centralh.*, 326.

Cleansing Material for Show-Windows, Mirrors, Etc.

ONE of the best materials for this purpose is a mixture of calcined magnesia with enough purified benzin to produce, when shaken up, a thick milk. It should be kept in vessels provided with well-ground, glass stoppers. For use, a small quantity of the mixture is applied to a muslin rag, or better, to a wad of cotton, and the windows, etc, rubbed with this. It may be very readily cleaned off without leaving any deposit in the corners.

* NEW REMEDIES, 1883, p. 72 (from *Dingler's Polyt. Journ.*, 247, 3). Also. *Pharm. Centralhalle* 1883, p. 36.

† Taken from the author's work, *Fäulniss und Ansteckung*, Wien, 1872.

Trichlorophenol as an Antiseptic.

THE series of bodies extracted or derived from coal-tar, and possessing antiseptic properties, is by no means exhausted. In our present issue, we give an account of recent experiments made with naphthol, and these may be supplemented by an abstract of the results obtained by Dr. Dianin with trichlorophenol.*

The author proposes a new method for preparing this compound, namely, to add a saturated solution of chloride of lime to a concentrated aqueous solution of carbolic acid, and then to add hydrochloric acid, whereby a colorless, voluminous precipitate of trichlorophenol will be separated. This is soluble in 116 parts of water, easily in alcohol, ether, and carbon disulphide. The experiments quoted by the author show the substance to possess powerfully antiseptic properties, and appear to show that it is twenty-five times as energetic as carbolic acid.† Weak solutions, containing only 0.02 per cent are reported by the author as sufficiently active to arrest alcoholic fermentation, and to sensiby retard the latter in presence of only 0.007 per cent. The development of ammonia in urine is prevented by the addition of 0.25 per cent of trichlorophenol. In cases of extensive gangrenous processes, this substance is a powerful antiseptic, "surpassing carbolic acid, thymol, salicylic acid, chloride of lime, magnesium salts, etc." Further advantages of the substance are its property of suppressing bad odors, and the fact that even concentrated solutions of it do not irritate the tissues.—After *Arch. d. Pharm.*

[NOTE OF ED. N. R.—When phenol or carbolic acid is treated with such proportions of a hypochlorite that the available active chlorine is *just sufficient* to form the mono- or di-chlorophenol, these bodies are formed. In dilute solutions, they form without secondary products, and may be separated by precipitating them with hydrochloric acid. In more concentrated solutions, resinous by-products are formed which cause the liquid to become brown or brownish-black. According to Dr. Dianin, the trichlorophenol does not appear to require the precaution that equivalent quantities of the substances should be brought together. But, according to Th. Chandelon (*Ber. d. Deutsch. Chem. Ges.*, 1883, 1749), this is necessary. And, in order to obtain a pure product, the phenol solution should not contain more than 3 per cent, and the hypochlorite solution should be so dilute that each cubic centimeter corresponds to 4.5 or 5 *cc.* of Penot's chlorometric solution (that is, corresponds to 0.0223 gm. arsenious acid).]

Euonymin and its Preparation.

IN the course of a paper on this subject, by Paul Thibault (in the *Journ. de Pharm. et de Chim.* [5], vol. viii. [1883], p. 113), the author remarks that the method said to be used in the preparation of the "resinoid" euonymin, namely, precipitation of the concentrated alcoholic tincture by cold water, cannot be the true one, because it actually yields only minute traces of a precipitate, and the latter differs entirely from the commercial article.

The author states that there are three different euonymins met with in the market, which he thus describes:

1. *Brown Euonymin.* A brownish-gray powder, of a peculiar taste, producing copious salivation when applied to the tongue. It is very hygroscopic, entirely soluble in water, to which it imparts a deep brown color; less soluble in alcohol and ether. Its solution is slightly precipitated by phosphomolybdate of ammonium, but neither by the double iodide of mercury and potassium, nor by acids or diluted ammonia. Ferric chloride colors it deep brown. It strongly reduces Fehling's solution.

2. *Green Euonymin, A.* A green powder, of the same taste as the preceding, and equally hygrometric. Almost entirely soluble in water. The insoluble residue consists of chlorophyll. When deprived of this coloring matter by ether, it behaves towards solvents and reagents exactly like brown euonymin.

3. *Green Euonymin, B.* A greenish, odorless powder, of very bitter taste, soluble in alcohol and petroleum, insoluble in carbon disulphide, only partly soluble in ether and chloroform. (This description is given by the author on the authority of Dr. Conil.)

Having ascertained that the alleged process of preparation could not be the one actually followed, the author made experiments and succeeded in obtaining products apparently identical with the commercial ones. His method of proceeding is as follows:

1. *Brown Euonymin.*

Moisten one part of the powdered bark of the root of euonymus with one-half part of alcohol of sixty per cent, pack it in a percolator and, after twenty-four hours, pour on five and one-half parts of alcohol of sixty per cent, and collect the percolate, displacing the alcohol gradually by water. Recover the alcohol from the percolate, filter the residue, and evaporate it on the water-bath to a syrupy consistence. Then add a little sugar of milk to prevent the separation of some fatty and resinous substances. Mix intimately, dry in a warm place, powder, and tranfer to dry and well-closed bottles.

2. *Green Euonymin, A.*

Proceed exactly as in the preceding case, except that the evaporation and drying must be conducted at a temperature not exceeding 60° C. (140° F.). The product will then have the color of the chlorophyll which is contained in the herbaceous layer of the bark.

3. *Green Eunonymin, B.*

To judge from the properties of this article, as described by Dr. Conil, it would seem as if it were prepared by exhausting euonymus twigs by means of light petroleum oils, with the aid of heat, then distilling off the petroleum, and evaporating to dryness. This preparation is very little active. [We believe it is unknown on this side of the Atlantic (?).—ED. N. R.]

The therapeutic reputation acquired by euonymin is based on the *brown* variety above described. And this is the only kind which should be used in medicine.*

Precipitates in Fluid Extracts, Tinctures, Etc.†

BY J. U. LLOYD.

LET us now consider another class of precipitates—a class which forms upon or above the surfaces of our tinctures and our fluid extracts. At a first glance, it may seem inconsistent to speak of a precipitate forming above the surface of the liquid from which it is derived, and yet when the subject of precipitates is studied, we find that a substance of this nature is a common phenomenon.

We will first examine a surface precipitate, by which we mean the film that results when certain tinctures or fluid extracts are permitted to remain quietly, even if in securely sealed vials. In many instances, especially where the solvent is diluted alcohol, and the material from which the tincture was made contained oils or resins in abundance, this film will be formed quickly and repeatedly.

We may refer to tincture of capsicum (*Pharm.*, 1870), or to a tincture of lobelia seed, or of colchicum seed, each made with dilute alcohol, and we all know that other examples of this nature are numerous in partly filled bottles closely sealed.

In speaking of evaporation, we usually assume that exposure to the atmosphere is a necessary condition, and apparently assume that evaporation cannot proceed in

* Inaugural Diss., St. Petersburg, 1882.

† We hope that this may turn out to be true. But experience has shown that such substances usually turn out more satisfactorily in the hand of the first discoverers, who may be a little tainted with enthusiasm, than in the hands of subsequent investigators.—ED. N. R.

* The author also mentions the fluid extract which, to a French public, is new enough to warrant mention and description. We are sufficiently familiar with it to omit mentioning it here, especially since it is now also officinal in the new U. S. Pharm.—ED. N. R.

† Presented at the meeting of the American Pharmaceutical Association in Washington. Continuation of a paper presented in 1882.

closed vessels when the vapor is prevented from escaping. Such a view, however, we find is not consistent with a careful study of the phenomenon, for we are constantly meeting with examples where evaporation progresses in closed vessels. We may cite the evaporation of water in a steam boiler, for the water continues to volatilize as the heat increases, and of course the pressure increases in proportion to the amount of water in the form of vapor. Under the same conditions, and in a like manner, other volatile liquids will evaporate.

It is not necessary that the liquid should be in a state of active ebullition in order that it should evaporate rapidly. Often, when conducting distillation by means of a glass retort, it will be observed that a perfectly tranquil liquid will evaporate and distil very fast. When the temperature increases, a certain increase of evaporation follows from the surfaces of our tinctures and fluid extracts, even if the bottles are air-tight. Let it be assumed that we are now considering a tincture which is fully saturated with some substance, and it will be found in this case that the increase of temperature will readily produce a film over the surface of the liquid, or small aggregations of solid matter, providing the increase of temperature is not followed by a corresponding increase in solvent power of the liquid. In case the tincture is made with dilute alcohol, and contains oils or resins, this evaporation decreases the solvent power the liquid has for these substances, because the alcohol evaporates more rapidly than the water. As a consequence, a film quickly forms over the surfaces of such liquids. In these cases, the precipitate will not re-dissolve, and upon agitation of the contents of the bottle, it frequently settles to the bottom of the liquid. This operation may have another influence upon the formation of precipitates, for it alters the solvent power of the solution, and other substances may, in consequence, be thrown down.

We shall not dwell upon this latter phase of the subject, because our paper read before the society at its last meeting was mainly devoted to the consideration of a class of precipitates which results from alterations of the menstruum. We find, in accordance with the foregoing statement, that directly and indirectly a class of precipitates may be formed upon the surface of a liquid, even though the liquid is in a closed vessel, and that this class results from surface evaporation. Under such circumstances, when the temperature is reduced, a proportional condensation of vapor follows, and thus by alternate changes of temperature we may have repeated evaporations and condensations which, under certain conditions of the liquid, will be followed by small surface precipitations. The amount of insoluble matter thus produced is not large, as a rule, and yet it may be sufficient to render a pharmaceutical preparation unsightly.

We have as yet advanced little if any proof to demonstrate that the precipitate which we have considered resulted from evaporation. In order to bring forward the line of argument whereby we were led to make the assertion concerning the method of its production, we will first consider the class of precipitates to which we have referred as forming above the surface of the liquid. As an introduction, permit us to call attention to a related phenomenon familiar to all pharmacists, but which perhaps has escaped general attention and investigation. During the evaporation of solutions, every operator must have noticed the incrustations of certain substances which form upon the sides of the dish just above the surface of the liquid. This often creeps upward, until with certain salts it will extend to the rim of the dish, even though the original solution occupied but a small portion of the space within the dish. This upward growth results mostly from an absorption of the solution by the lower edge of the incrustation, and a transference of it by capillary attraction to the upper edge, where it evaporates, and upon evaporating deposits the unvolatile portion. This heightens the layer of incrustation by the amount of solid matter deposited, and as such an incrustation is usually crystalline in form, and porous, the newly deposited matter acts like a sponge and carries other portions of the solution from beneath upward. This continual absorption from beneath, and evaporation from above, causes a constant deposition of insoluble matter over the surface of the incrustation and upon its upper edge until, as we have remarked, the creeping incrustation may reach the rim of the dish, and even lap over it. To such an extent do we have this phenomenon exemplified by certain substances, that when we attempt to evaporate to dryness the solutions of some salts, the larger portion of each will be found upon the sides of the dishes, providing the solutions were not constantly stirred and the sides of the dishes continually scraped while evaporation progressed. As illustrations we may refer to solutions of chloride of ammonium in water, or of salicylic acid in alcohol, the former best shown by evaporation with artificial heat, such as a steam-bath, the latter spontaneously.

If the salts are impure, it will be often found that most of the impurity will have separated, forming, if darker than the salt, a colored layer upon some portion of the incrustation, or else remaining in the bottom of the dish. The position of the impurity depends upon the relative solubilities and crystallizing powers of the substances which compose the mixture; but as this section of the subject is foreign to the question in which we are now directly interested, we will not permit ourselves to be diverted.*

Most pharmacists must be familiar with the phenomenon which we have presented; if not, dissolve a little salicylic acid in a small portion of alcohol, pour the solution into a small evaporating basin, and permit the alcohol to escape spontaneously. The incrustation will be formed in the manner we have named, and is characteristic of others of the same kind. In continuing the study of such an incrustation, it will be found that extraneous circumstances retard or encourage its growth in certain directions, so that it is not always the case that the deposit rises in an even line above the surface of the liquid. The rate of progression is facilitated or interrupted by such conditions of the surface of the dish as the defective glazing of a portion of it, or of a soiled surface. Chief among the agencies which renders its growth irregular, however, will be found unequal temperatures. If the temperature of one side of the dish above the solution is raised, it will be found that the incrusation will flow† upward very rapidly upon the inner surface of that portion of the dish, and it is but natural to expect such a result, because increase of temperature produces a more rapid evaporation, which must be followed by a faster deposition of unvolatile matter.

* Advantage may be taken of this fact in the purification of some substances, and, perhaps, if studied carefully, may prove of actual value in the separation of bodies for which, as yet, we have imperfect methods. Some of the glucosides or other principles of plants which are associated with glucose, seem to dissolve in all solvents which will dissolve glucose, and to be thrown out of solution by the same precipitants, and it may be that a study of the principle to which we have alluded may give us a method of some value in these cases. We have taken advantage of it in the separation of coloring matters, and as an illustration call attention to the incrustation of salicylic acid within the evaporating basin (specimen E), which contained the solution of a dark-colored commercial salicylic acid, but which after spontaneous evaporation has separated from the impurity which is mostly deposited in a distinct ring on the rim of the incrustation.

† Some may object to our use of the term *flow* in this example, since the material is a solid, and we have only spoken of the formation of this crust by the deposition of matter upon its surface or on the upper edge. The experiments of Agassiz among the Swiss glaciers show that they constantly move onward like a river. Perhaps it may also be argued that most solids are plastic enough to yield under a slow, constant pressure. We have seen it recorded that steel may be punched like a piece of putty if the punch is harder than the steel, and the pressure immense, and very gradually applied. In our case, the creeping solution crystallizes throughout the interstices of the incrustation as well as upon its surface, and the pressure of this constantly forming and interlaced mass of crystals causes a flow of the entire mass, so that in reality most of the mass moves upward. The stopper of a bottle can readily be lifted by a solution which crystallizes between it and the neck of the bottle, or the pressure may even fracture the glass. In this connection, it may not be out of place to refer to the destruction of buildings by the fibrous roots of plants which separate the stones, and we read that some of the immense stones of the ancient buildings of Eastern countries are being toppled from their positions by fibrous rootlets. Lastly, one of the most irresistible forces known to us is that of water in the act of freezing, and this is simply a crystallization.

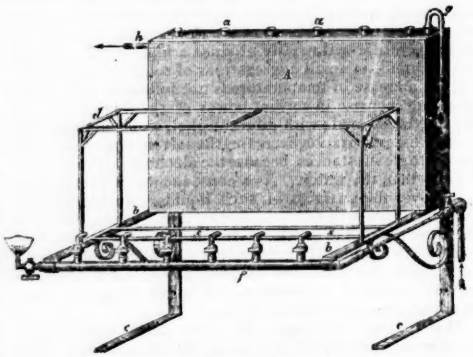
Some salts possess this creeping property to a remarkable extent, while others will scarcely rise above the surface of the liquid. Mixtures may be made of salts, each salt being perfectly soluble, the mixture dissolved and evaporated, and it will often be found that each salt has selected a location, and there may be a fair line of demarcation between them. As an illustration, one ounce each of chloride of sodium and bromide of ammonium were mixed, dissolved in water, and evaporated to saturation. The solution was then poured into the bottom of a dry evaporating basin, and evaporated to dryness without agitation. It was then found that the creeping incrustation had reached the rim of the dish, but for about two-thirds the way from the top it was thin and entirely different in appearance from that beneath. Portions of the material were then taken separately from near the top of the dish and near the bottom, and severally boiled with alcohol until the residue remained insoluble, using the same proportion of alcohol for each. The specimen from near the top of the dish weighed before treatment with alcohol 14.8 grains, after treatment 0.1 grain, thus showing that very little chloride of sodium was present. The specimen from the bottom of the dish weighed 18.0 grains before treatment with alcohol, and 11.2 grains after treatment, showing that this was more than half chloride of sodium. Hence we find that by a process which may be compared with dialysis the bromide of ammonium had purified itself from the chloride of sodium until only about two-thirds of one per cent of the latter salt remained.* Specimen F.

We cannot consume further space at this time with this section of our work, but the results are interesting and well worthy of attention. The experiments we have carried on show that this character of crystalloids and colloids should be studied in connection with dialysis. We must accept that the deposition of the incrustations we have just considered results from evaporation of the solution, and that these incrustations form above the surfaces of the liquid; however, we shall produce further evidence after a time. There is a close connection between the examples which we have just given and a class of precipitates or incrustations that form above the surface of our tinctures and fluid extracts, and the explanation by which we have illustrated the formation of the incrustation upon the inner surface of the evaporating basin will account for the formation of these.

(To be continued.)

Apparatus for Making a Series of Small Distillations at One Time.

FOR the purpose of distilling a series of samples at one time, as for instance, in determining their alcoholic strength, Dr. B. Landmann has devised an apparatus which appears to be very compact, and may be fastened against the wall, so as not to interfere with other available space in the laboratory. It consists of a common, tinned-iron cooler *A*, 54 *cm.* (21¼ inches) long, 30 *cm.* (12 inches) high, and 5 *cm.* (2 inches) deep, with a series of openings *a*, for passing through the condensing tubes, and an inlet and outlet for water, *g* and *h*. The cooler stands upon two iron supports, *b*, *b*, about 24 *cm.* (9¾ inches) long, to the front ends of which is attached the gas-pipe *f*, which is provided with six stop-cocks and a lateral burner. The two iron supports are firmly held in place by the two parallel rods *e*, and the iron frame-work *d*, which is 4 *cm.* (1¾ inches) distant from the cooler, has a height of 20 *cm.* (8 inches), and a width of 7 *cm.* (2¾ inches). The receivers are placed upon a board which is laid across the supports *c*, *c*. From the second illustration, which represents a side view, the practical application of the apparatus will be readily understood. As it is necessary that quite a number of connecting tubes, of the shape shown in *K*, should be on hand, it is advisable to bend them all after a pattern or drawing made upon a board. Should the corks through which the cooling tubes *a*, *a* pass not be sufficiently tight, it is only necessary to pour melted paraffin through the orifice *g*, until it has coated the bottom of the apparatus.*—From *Zeitsch. f. Anal. Chem.*, 1883, 394.



Apparatus for small distillations.

The Production of Bromine in the United States.†

BY W. J. M. GORDON, OF CINCINNATI, OHIO.

"WHAT is the present production of bromine in this country?"

In answer to this query I will state that the annual production of bromine in this country is from 450,000 to 500,000 pounds, which is made in the following localities, and in quantities about as named:

	Pounds.
On the Allegheny River, Pa	70,000
Clifton, Mason City and Hartford City, W. Va	110,000
Middleport, Pomeroy and Coa'port, O.	130,000
Kanawha River, W. Va	45,000
Canal Dover	30,000
Midland and St. Louis, Michigan	100,000

Bromine exists as bromides in the brine, or what is known as bittern, after the salt has been extracted, and the places above named are the only ones in which it has been found in paying quantities. At these places the bittern is very rich in bromides, the estimate being that for every 2 barrels of salt 1 pound of bromine should be made. This, however, is not strictly correct, as it differs in different localities and at wells in close proximity. The material at every salt well where bromine can be made is now worked, and the production is as large, probably, as it will reach, unless salt should be found in other places containing it, and should this not occur, it will be likely to decrease, as the manufacture of salt in some of the places named has been unprofitable, and when furnaces have given out they have been wrecked and abandoned, and this is likely to continue. The first production of bromine in this country was at Freeport, Pa., in 1846. At that time the demand

* The evaporating basin which we present as specimen F will illustrate this property. A mixture of salts, equal parts of bromide ammonium and chloride of sodium was made, dissolved, and poured into the dish. The dish was then placed in a drying-room and the liquid evaporated by exposure to a temperature of 180° F. Attention is called to the fact that upon the bottom of the dish crystals of chloride of sodium are in masses and distinct, while above the surface of the original liquid none are visible to the naked eye. Notice also the warty excrescences which have been thrown up in certain places along the side of the dish and upon the surface of the crust, these being especially numerous just above the original surface line of the liquid. These excrescences, although formed immediately upon the edge of the liquid, or upon the crust which formed over the surface of the liquid, contain but a small proportion of chloride of sodium. The one which has been divided yielded but 0.55 of a grain of chloride of sodium in 9.75 grains of material removed. We scarcely consider it necessary here to consider the interchange of elements which might result from double decomposition of the two original substances.

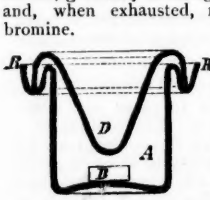
* This should previously be heated, to prevent the paraffin from being chilled off too rapidly.—ED. N. R.

† Read at the Meeting of the Amer. Pharm. Assoc.

was very small, and used principally in the preparation of daguerreotype plates. When this use ceased the production was abandoned. In 1866, when attention was attracted to the value of bromides as nerve sedatives, the manufacture was again commenced and factories established at Tarentoum and Natrona, Pa., and on the Ohio and Kanawha Rivers. In 1868, when these were established, the market price was $2 per pound. Competition soon reduced it to an unprofitable figure, and for several years the average price has been about 28 cents. This country furnishes the largest quantity of bromine used. In 1870 the export from this country commenced, and since then large quantities have been shipped to European markets. Much difficulty however, has been experienced in getting vessels to carry it, and of late years the principal shipments have been bromide potassium.

Bromine as an Disinfectant.

WHILE it is known that bromine constitutes one of the most powerful disinfecting agents known, having this advantage over chlorine that it can be stored, transported, and applied in the most concentrated state, yet this very concentration has been the main reason why it has not been more generally employed as a disinfectant. The risk of handling the agent has, however, been overcome by the process of A. Frank (Germ. Pat. 21,644) who causes firm blocks of *kieselguhr* (a siliceous earth, composed of the microscopic shells of fossil diatomaceæ) to soak up from five to six times its own weight of bromine. These pieces or blocks charged with liquid bromine, when exposed to the air, gradually discharge the element in a gaseous form, and, when exhausted, may again be saturated with bromine.



In order to produce a proper regulation of the rate of evaporation, and to prevent the evolution of too much vapor at a time when disinfecting sick-rooms, etc., Frank recommends the use of a vessel *A*, made of glass, porcelain, or other bromine proof material, which is provided with a ditch around the rim, into which fits a conical-shaped cover *D* (the cone being turned downwards). The ditch is filled either with solution of bromide of potassium, or with water. As soon as bromine-vapor is evolved by the lump *B* contained in the vessel, it is dissolved by the liquid in the ditch, and gradually evaporates from the exposed surface on the outside of the cover. If too much bromine is vaporized, it is condensed on the inner walls of the lid, and flows back. Should it be desired to hasten the evaporation, warm or hot water may be poured into the cone-shaped depression of the lid.

The energetic effect of bromine upon organic substances, where it is desired to preserve the latter from being ruined, may be greatly retarded, or sometimes prevented, by treating them—if feasible—with petroleum. The same agent will also facilitate the rapid removal of the odor of bromine.

Glycerin as a Preventive of Crystallization in Strained Honey.*

BY J. W. COLCORD, OF LYNN, MASS.

HAVING for several years had considerable trouble and loss in keeping pure strained honey, on account of its tendency, in a short time (particularly in warm weather), to crystallize, I have been ready for any remedy that was feasible. One lot that I purchased in the comb and strained myself soon became almost worthless from this cause. Some two months ago, I had a small lot that I found crystallized when wanted for use, although I had taken the precaution to cork tightly and put in a cool place in the cellar. It occurred to me to see what would be the result from melting and adding a small amount of glycerin. Placing the bottle in a water-bath, I soon had it melted and added one ounce of glycerin to about one and one-half pounds of the honey, setting aside to cool. It has shown no sign of recrystallization as yet, and I am just using the last of it. I can see no objection to this on the score of adulteration or any harm from its use. In making simple syrup I have occasionally found it crystallized in the bottom of the bottle, causing some trouble to remove and several times have found some chemical change, which has caused an unpleasant odor, which I have not at all times been able to obviate, although using distilled water and the purest sugar obtainable. Have not as yet had an opportunity of trying the effect of glycerin, but think it might prove beneficial and in no way objectionable. Have been acustomed to add a small amount to my beef, iron and wine for a long time, and find it prevents souring and, in a large measure, precipitation.

* Read before the Amer. Pharm. Assoc.

Thapsia Plaster in the Treatment of Weeping Sinew.*

BY J. W. COLCORD, OF LYNN, MASS.

HAVING had several cases of weeping sinew in my family and among my friends, and seeing but little relief experienced from the various methods of treatment, such as rupture by a blow, showering with cold water, etc., a cure, if at all, being effected only after long suffering, I was dismayed a year or more ago to find myself a victim. The pain was such that I could scarcely use my hand. Casting about for some remedy, by a lucky chance—for this only it was—I applied a small piece of thapsia plaster, securing it with a bandage around the wrist. To my exceeding gratification, in a few hours the pain subsided, and at the end of twenty-four hours I removed the plaster. There was considerable tetter with intense itching for a day or two, but I was not troubled again for several months, until another strain produced another smaller one, which quickly yielded to treatment and for a year I have had no further trouble in this respect. I have recommended this treatment in quite a number of cases since with the happiest results.

Petrolatum in the Officinal Ointments.*

BY J. P. REMINGTON.

PETROLATUM, the new officinal ointment base, was probably the subject of more animated discussion in the long series of debates occurring in the last Committee of Revision and Publication of the Pharmacopœia than any other preparation. The fact that it was a mixture, being composed of hydrocarbon of the paraffin and olefin series, probably ranging from $C_{16}H_{34}$ to $C_{32}H_{66}$, and from $C_{16}H_{32}$ to $C_{27}H_{54}$, and that its physical properties depended to a considerable extent upon the relative proportion of olefin constituents contributed to the necessity for thorough study and discussion, but the need that was recognized for a non-oxidizable substitute for lard, and the conviction that the cosmolines, vaselines, deodorolines, saxolines, petrolins, etc., etc., etc., in their then condition of varying composition, would not be acceptable in a national authority, was the prime reason for fixing a standard which could be readily reached, and would be essentially practical. After a prolonged consideration, it was finally decided to fix the melting point but slightly above that of the best form of the commercial article, for experience had shown that excellent results had been obtained therapeutically from a petrolatum having a melting point of 40° C. (or 104° F.), and a firmer petrolatum could be readily produced by incorporating yellow wax with it, although care is necessary in the production of this firmer ointment. To insure a homogeneous compound, it must be stirred thoroughly and continuously after it has commenced to congeal, whilst upon the large scale mechanical stirrers are recommended. At the present time petrolatum can be had of excellent quality and fully up to the requirements of the

* Read before the Amer. Pharm. Assoc.

Pharmacopœia, in large quantities, cheaper than good lard, and the reduction in price due to competition is still going on, and thus one practical obstacle to its general employment in ointments is overcome. It is not the intention of this paper to enter into a discussion of the therapeuticcl superiority of petrolatum as a base for ointments Its very extensive use in this connection by physicians, compelled the Committee of Revision to introduce it into the Pharmacopœia, and if, at the time of the decision, an adequate supply madeby different manufacturers, and not proprietary in its character, could have been assured, it would have probably been directed in the formulæ for the ointments The next revision will, in all probability, require its use in most of the officinal ointments. With the view of obtaining some experience in its general use, the following series of formulæ were devised, in which petrolatum is substituted for lard, or other animal fat, in each one of the officinal cerates and ointments, and one-pound samples are herewith submitted to the Association for inspection ; the formulæ will be accompanied by comments when deemed necessary.

Ceratum (Cerate).

Yellow wax, 30 parts ; petrolatum, 70 parts ; melt them together and stir constantly until cool. The color of cerate made in this way is light yellow, and, of course, would not be recognized as officinal simple cerate. It is, nevertheless, an excellent dressing, and will retain its properties unimpaired a greater length of time than officinal cerate.

Ceratum Camphoræ (Camphor Cerate).

Camphor liniment, 3 parts; olive oil, 12 parts; cerate (made with petrolatum), 85 parts ; mix the camphor liniment and the olive oil, and incorporate with the cerate. This cerate was introduced as the base of cerate of subacetate of lead, and when made from petrolatum is more permanent than the officinal. A better and simpler formula, in some respects, is as follows: Powdered camphor, 1 part, petrolatum, 10 parts, cerate (made from petrolatum), 189 parts ; warm the petrolatum until it liquefies, then dissolve the camphor in it, and incorporate with the cerate.

Ceratum Cantharidis (Cantharides Cerate).

Cantharides in No. 60 powder, 35 parts; yellow wax, 20 parts; resin, 20 parts; petrolatum, 25 parts; use the officinal process.

Ceratum Cetacei (Spermaceti Cerate).

Spermaceti, 10 parts; yellow wax, 25 parts; *petrolatum, 65 parts;* melt together the spermaceti and wax, then add the petrolatum, and stir the mixture constantly until cool. Not white, but much more permanent than the officinal.

Ceratum Extracti Cantharidis (Cerate of Extract of Cantharides).

Cantharides in No. 60 powder, 30 parts; resin, 15 parts; yellow wax, 35 parts; petrolatum, 35 parts; alcohol, a sufficient quantity ; use the officinal process.

Ceratum Plumbi Subacetatis (Goulard's Cerate).

Solution of subacetate of lead, 20 parts; camphor cerate (made from petrolatum), 80 parts ; mix them thoroughly. This cerate is more permanent than the officinal, and in practice will be found to be very efficient in alleviating acute, active, continuous inflammation, at times being successful when the officinal ointment does not afford immediate relief. It is yellowish-white in color.

Ceratum Resinæ (Resin Cerate).

Resin, 35 parts; yellow wax, 15 parts ; petrolatum, 50 parts ; mix together at moderate heat, strain through muslin, and allow it to cool without stirring. The substitution of petrolatum in this cerate is probably not much of an improvement from a therapeutic point of view, as stimulation is the object sought. It would, however, not be objectionable When made without stirring, a semi-translucent, handsome ointment is produced.

Ceratum Sabinæ (Savine Cerate).

Fluid extract of savin, 25 parts; resin cerate (made from petrolatum), 90 parts ; use the officinal process.

Unguentum (Ointment).

Petrolatum, 80 parts; yellow wax, 20 parts ; melt the wax and add the petrolatum gradually ; then stir the mixture constantly, until cool. A yellowish-white ointment which is firmer in consistence than the petrolatum, having a higher melting point. It is well adapted for use in the firmer class of medicated ointments.

Unguentum Acidi Carbolici (Ointment of Carbolic Acid).

Carbolic acid, 10 parts; ointment (made from petrolatum), 90 parts ; mix them thoroughly. This ointment seems to have less tendency to separate than that made by the officinal process ; therapeutically, there can be but little difference in them.

Unguentum Acidi Gallici (Ointment of Gallic Acid).

Gallic acid, 10 parts; benzoinated petrolatum, 90 parts ; use the officinal process. Very little benefit was observed when petrolatum was treated with benzoin, the peculiar change in the odor of petrolatum which occurs when it is long kept has been observed in benzoinated petrolatum almost to as great an extent as in simple petrolatum which was exposed for the same length of time. The odor is undoubtedly modified by the presence of the benzoin, but the petrolatum is not changed or protected by it. This ointment is undoubtedly an improvement on the officinal one.

Unguentum Acidi Tannici (Ointment of Tannic Acid).

Tannic acid, 10 parts; benzoinated petrolatum, 90 parts; use the officinal process. This is a better ointment therapeutically than the officinal.

Unguentum Aquæ Rosæ (Cold Cream).

Petrolatum, 60 parts; white wax, 10 parts; rose water, 30 parts ; use the officinal process. The addition of a small quantity of oil of rose improves this ointment greatly, although it would be probably useless to attempt to dispense this improved ointment in ordinary counter practice, as cold cream, because of its yellow color. There is no question of the superiority of petrolatum cold cream as a practical dressing and emollient.

Unguentum Belladonnæ (Belladonna Ointment).

Alcoholic extract of belladonna, 10 parts; diluted alcohol, 6 parts; petrolatum, 84 parts ; rub the extract with the diluted alcohol until uniformly soft, gradually add the petrolatum, and mix thoroughly. An improvement over the officinal ointment therapeutically.

Unguentum Chrysarobini (Chrysarobin Ointment).

Chrysarobin, 10 parts; petrolatum, 90 parts; rub the chrysarobin with the petrolatum, gradually added until they are thoroughly mixed. A better ointment may be made, however, by digesting the mixture in a water-bath and stirring thoroughly as it cools.

Unguentum Diachylon (Diachylon Ointment).

Lead plaster, 60 parts; petrolatum, 39 parts; oil of lavender, 1 part; melt together the plaster and petrolatum at a moderate heat. Then having permitted the mass to become partly cool, incorporate with it the oil of lavender, and stir constantly until cold. This ointment is a decided improvement on the officinal formula. It keeps much better, does not separate, and is not so adhesive, on account of the want of uniformity in the quality of olive oil permitted by the Pharmacopœia. Physicians often complain of the irritant effects produced by the use of this ointment as ordinarily dispensed. The use of petrolatum would undoubtedly do away with these difficulties, and a smooth, non-irritating and more permanent ointment than the officinal be produced.

Unguentum Gallæ (Nutgall Ointment).

Nutgall in No. 80 powder, 10 parts; petrolatum, 90 parts;

rub the nutgall with the petrolatum, gradually added, until they are thoroughly mixed. For therapeutical reasons, this is preferable to the officinal.

Unguentum Hydrargyri (Mercurial Ointment).

Mercury, 450 parts; petrolatum, 300 parts; yellow wax, 150 parts; compound tincture of benzoin, 40 parts; mercurial ointment, 100 parts. Mix the mercury with the tincture of benzoin in a mortar, add the mercurial ointment (which should contain 50 per cent of mercury); triturate the mixture until globules of mercury cease to be visible. Then add the petrolatum and yellow wax previously melted together, and partially cooled, and continue the trituration until globules of mercury cease to be visible under a magnifying power of ten diameters. This is believed to be a better ointment than the officinal, for both lard and suet are dispensed with, the necessary firmness being imparted by yellow wax. The process is practically more rapid than the officinal, because suet is almost invariably granular in its character, and prolonged trituration is necessary to break down the granules. The disagreeable odor always present in suet is, of course, absent in the improved preparation, whilst rancidity is effectually prevented.

Unguentum Hydrargyri Ammoniati (Ointment of Ammoniated Mercury).

Ammoniated mercury in very fine powder, 10 parts; petrolatum, 90 parts. Rub the ammoniated mercury with the petrolatum, gradually added, until they are thoroughly mixed. Preferred for therapeutical reasons.

Unguentum Hydrargyri Nitratis (Citrine Ointment).

The practice which has been indulged in, to some extent, of making citrine ointment from petrolatum is one which should be condemned. The well-recognized therapeutic effects caused by the use of this ointment are probably due not only to the presence of the acid nitrate of mercury, but to the elaïdin produced by the action of nitric acid upon olein. Now it has been shown by Schorlemmer that hot nitric acid attacks octone, one of the higher members of the paraffin group, and that succinic acid is one of the products; but it is yet to be proved that the resulting compounds, if any, produced by reacting upon petrolatum with nitric acid, under the circumstances detailed by the officinal process, are valuable. Indeed, it is very probable that the chemical changes are slight, and it is very fair to assume that totally different products must result when a mixture of paraffins is treated with nitric acid than when the olein in any animal oil is so treated. Practical results seem to verify this view, for the attempts to produce ointment of nitrate of mercury from petrolatum, which have been made by various investigators from time to time, have proved failures. A spongy yellowish mass filled with bubbles of gases resulting from decomposition, and ultimately turning brown, is the result. The present officinal process, if strictly adhered to, gives an excellent product, and, for the reasons above given, the writer recommends it, in preference to all others.

Unguentum Hydrargyri Oxidi Flavi (Ointment of Yellow Oxide of Mercury).

Yellow oxide of mercury in very fine powder, 10 parts; ointment (made from petrolatum; see unguentum), 90 parts. Rub the oxide of mercury with the ointment, gradually added, until they are thoroughly mixed. Preferred to the officinal, from therapeutical reasons.

Unguentum Hydrargyri Oxidi Rubri (Ointment of Red Oxide of Mercury).

Red oxide of mercury in very fine powder, 10 parts; ointment (made from petrolatum; see Unguentum), 90 parts. Rub the oxide of mercury with a small quantity of the ointment until a perfectly smooth mixture is obtained. Then gradually add the remainder of the ointment, and mix thoroughly. More permanent than the officinal, and preferable therapeutically.

Unguentum Iodi (Iodine Ointment).

Iodine, 4 parts; iodide of potassium, 1 part; water, 2 parts; petrolatum, 93 parts. Use the officinal process. A dark greenish-black ointment is produced, which is probably not inferior to the officinal. The advantages of the use of petrolatum here are not so apparent as in some of the other ointments.

Unguentum Iodoformi (Iodoform Ointment).

Iodoform in very fine powder, 10 parts; petrolatum, 93 parts. Rub the iodoform with the petrolatum, gradually added, until they are thoroughly mixed. Preferable on therapeutic grounds.

Unguentum Mezerei (Mezereum Ointment).

Fluid extract of mezereum, 25 parts; petrolatum, 80 parts; yellow wax, 12 parts. Melt together the petrolatum and wax with a moderate heat, add the fluid extract, and stir the mixture constantly until the alcohol has evaporated; then continue to stir until cool. The advantages of petrolatum in this ointment over lard are not very apparent, as it is used as a stimulating application.

Unguentum Picis Liquidæ (Tar Ointment).

The use of petrolatum here is not recommended, although, if desirable, a mixture of yellow wax and petrolatum, of the consistence of suet, could be used.

Unguentum Plumbi Carbonatis (Ointment of Carbonate of Lead).

Carbonate of lead in very fine powder, 10 parts; petrolatum, 90 parts. Rub the carbonate of lead with the petrolatum, gradually added, until they are thoroughly mixed. Preferable, therapeutically, to the officinal.

Unguentum Plumbi Iodidi (Ointment of Iodide of Lead).

Iodide of lead in very fine powder, 10 parts; petrolatum 90 parts. Rub the iodide of lead with the petrolatum, gradually added, until they are thoroughly mixed. A bright, orange-colored ointment, which darkens on the surface when exposed.

Unguentum Potassii Iodidi (Ointment of Iodide of Potassium).

Iodide of potassium in fine powder, 12 parts; hyposulphite of sodium, 1 part; boiling water, 6 parts; petrolatum, 81 parts. Dissolve the iodide of potassium and the hyposulphite of sodium in the boiling water in a warm mortar, then gradually add the petrolatum, and mix thoroughly. This ointment is of a lemon-yellow color, but shows a disposition to separate on keeping, due to the presence of the water. It should only be made as it is needed.

(*To be continued.*)

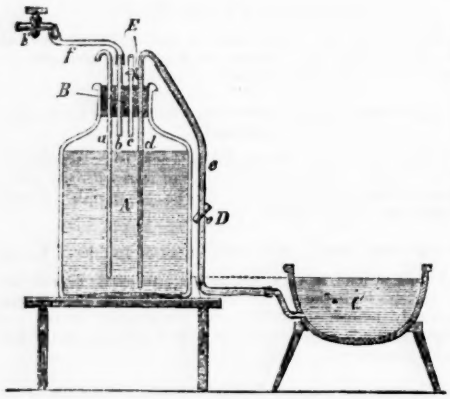
Products of the Slow Combustion of Ether.

WHEN the vapors of ether mixed with air pass over a strip of glowing platinum, it continues to glow, and the slow oxidation produces a mixture of formic and acetic acids with aldehyde, acetal, and methyl aldehyde. Legler has investigated this product (*Ann. Chem.*), and succeeded in isolating another new substance. From the slow oxidation of 150 or 200 *cc.* ether, he obtained 25 or 30 *cc.* (1 ounce) of a clear liquid, with a sour smell, resembling aldehyde. Upon cooling this in a desiccator, the new substance crystallized as rhombic prisms. It contains 26.44 per cent of carbon to 6.42 of hydrogen, which points to the empirical formula $C_{11}H_{38}O_{21}$. It is a peculiar fact worthy of note, that when treated with ammonia and then acidified, it exhibits the same reaction exactly as peroxide of hydrogen. Legler is engaged in investigating the constitution of this new substance.

Water-bath with Constant Level.

THIS water-bath is constructed on the principle of Mariotte's flask. *A* serves as reservoir of water and is closed air-tight by the perforated, India rubber stopper *B*. Through the latter pass four glass-tubes, one of which, *d*, acts as a siphon, in connection with the rubber-tube *e*, to supply water to the bath. The level in the latter is regulated by the depth to which the lower end of tube *a* reaches. The other two tubes, *b* and *c*, are closed while the apparatus is working, and are only used for filling it. When this is necessary, the pinch-cock at *D* is made to compress the rubber-tube, the stopper *E* of the tube *c* opened and water admitted to the flask through *F*, *f*. If it is inconvenient or impracticable to keep the short rubber-pipe *f* constantly connected with a water faucet, it may, when the flask is filled, be detached, and the open end pushed upon the glass-tube *c*, in which case it is not necessary that the latter be provided with a stop-cock.

By attaching several branches to tube *e*, any number of water-baths may be kept supplied at one and the same time.—C. KLEMENT, in *Zeitsch. f. Anal. Chem.*, 1883, 396.



Klement's Water-bath.

Black Lacquer for Coating Bottles.

BOTTLES, or other glass vessels, which it is desired to make impervious to light, may be coated, according to Ferd. Simand, with a black lacquer prepared in the following manner. Equal parts of asphalt and of boiled linseed-oil are heated for one hour, over a naked fire to about 200° C. (392° F.); then a sufficient quantity of lamp-black, previously triturated with oil of turpentine, is added, to make a mixture, which, when mixed with one-fourth or one-third its volume of oil of turpentine, will cover well. Usually, one coat is sufficient; in special cases, two coats may be required.

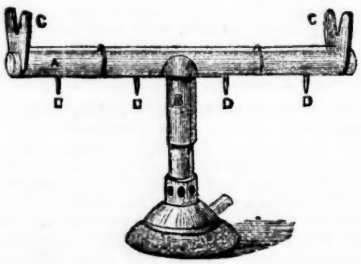
Sometimes it is desirable to be able to see the height at which the liquid in the bottle is standing. This may be accomplished, according to the author, by leaving a small round spot on opposite sides uncoated. The bottom of the bottle is likewise left unvarnished.—*Dingl. Pol. Journ.*

[In our judgment, it would be better to leave a very narrow *vertical* streak, on the side of the bottle usually turned towards the wall, uncoated. This would more readily permit ascertaining at what level the liquid stands.—ED. N. R.]

Megilp, Magilp, Megellup (the name is spelled in many other ways) is a mixture of pale linseed-oil and mastic varnish, employed by artists as a vehicle for their colors. The proportions vary, according to the work. It is thinned with oil of turpentine.

A Long-Flame Bunsen Burner.

I HAVE long felt the want of a Bunsen's burner which should heat short lengths of combustion-tubing to redness for such purposes as incinerating weighed amounts of ash containing carbon, separating small amount of elements which form volatile chlorides from elements the chlorides of which do not volatilize at a red heat, and for similar operations. Such a burner should be easy to manipulate, efficient, and inexpensive. I have devised the form represented in the annexed figure, which, I think, fulfils these requirements. [We think this form of burner may also be useful for other purposes, besides heating combustion-tubing for organic analysis. It may be used, for instance, to heat tubing containing oxide of iron, in the preparation of "ferrum reductum"; and for other similar purposes.—ED. N. R.] It consist of a brass tube *A*, with a brass *T*-piece, which can be fitted on to an ordinary Bunsen's burner, at right angles to the tube *A*. The horizontal tube is slit from end to end; it is closed at both ends, and provided with supports *CC*, in which the glass tube rests. As a substitute for stop-cocks are four pieces of wider brass tubing, which encase *A*, also slit along top, provided with brass pegs *DDD*, by means of which each can be moved so that the slit in *A* no longer coincides with the slits in the encasing tube. When the two slits coincide, there is free passage for gas; but when the external tubes are made to



Ramsay's Long-Flame Burner.

revolve on *A*, the gas is shut off, and the flame is extinguished. Each encasing tube is two inches long, the whole tube being eight and one-half inches in length. At one end of *A*, a circular piece of brass projects for three-sixteenths of an inch, and on the lower side a short peg is inserted. On the other end, there is a corresponding annular projection designed to receive the circular projection of another burner; in the ring, there is a slot into which the peg from the second burner fits. The object of this is to connect one burner with another, so as to form a furnace of a series of three or four burners. Such a series answers the purpose of an ordinary combustion furnace, and has the following advantages: It is much less cumbrous; the gas can be more conveniently regulated than in an ordinary furnace, and combustion tubes consequently last for a longer time; there is no disagreeable smell, so that a combustion room is not required; the combustion can therefore be performed on an ordinary laboratory bench; and the length of the furnace can be modified by using as many or as few burners as desired. There is, moreover, no danger of the flame "burning below"; it is a clear blue flame. For organic analysis, it is advisable to have special Bunsen's burners giving flames about ten inches high; else, the temperature is not sufficiently high; but the combustion-tube must then be protected with wire gauze.

To prevent upward radiation of heat, it is convenient to lay on the top of the tube several long pieces of asbestos cardboard; these are easily removed by crucible tongs during the combustion; hence its progress is easily watched. By performing the combustion in an open tube, in a stream of oxygen, it is easy to complete four in a day of six hours with a double set of absorbing tubes and bulbs, and, in-

deed, a rapid worker may accomplish seven. This, of course, depends on the nature of the substance burned; but with bodies which have a large carbonaceous residue when heated, such as sugar, no attention is needed after the first evolution of gas has ceased, and while the combustion is proceeding, the second set of tubes may be weighed. I have only to add that the flame may be regulated by turning the external tubes quite as well, if not better, than with stop-cocks.—W. RAMSAY, Ph.D., in *Chem. News*, 1883, July 6th.

(Fluid) Extract of Malt.*

BY J. U. LLOYD.

WHEN substances of this kind were introduced some five years ago, we were induced by the demand created to make a preparation of malt. In looking at the matter, it then seemed to us that the desideratum was a pharmaceutical which should embody the constituents of well-malted barley. We therefore arrived at the conclusion that there was little, if any, necessity for a deviation from the regular line of fluid extracts, although the processs for making malt extract in Germany resulted in a substance of the consistence of thick honey. Our view of the subject has not been changed. The most practical and feasible process for extracting the desirable principles from malt, in our opinion, is that of percolation. The product represents all of the valuable constituents of malt if the menstruum is adapted to their extraction. The finished fluid extract is pleasant to the taste; it is rich in diastase. The action of malt on warm gelatinous starch, whereby the starch is quickly changed into dextrin and sugar has been familiar since malt liquor has been used. Payen and Persoz (1833) first gave us the name diastase, which they applied to the fermentive principle of germinating malt. This substance is also found in other germinating seeds, sprouting pototoes, etc. This diastase is now generally accepted as the desirable principle of malt, although the glucose is certainly useful as a food, and to us it is by no means certain that other substances than diastase are not present and valuable. Extract of malt as introduced into this country, and which, as far as we can learn, was first officinal in the German Pharmacopœia, was made by bringing a decoction of malt to the boiling point, and then evaporating it to the consistence of a thick extract. Such, in substance, was the process, and the appearance and characteristics of the preparations sold originally in our country under this name induce us to believe that they were then made in this manner. Until one year ago, we do not know that in this country particular attention had been directed to the comparison in value of malt extracts in accordance with their powers to convert gelatinized starch into dextrin and glucose.

The perishable nature of diastase was well understood, and yet the makers of malt extracts seemed scarcely to consider it as a prominent factor. An extract of malt made a few years ago, which was preserved by us in an original bottle, compared with one of recent date made by the same manufacturer, shows a great difference in appearance and in properties. This preparation is that of one of the largest manufacturers; we have every reason to believe that the makers endeavor to produce an unexceptionable preparation, and we feel assured that they were as likely as any to have been among the first to consider the value of diastase. Hence it is that we may well believe Mr. Cowdrey to have first directed prominent attention in this country to the ease with which an extract of malt may be dispossessed of its diastase. In his paper read before this Society at its last meeting, he stated that a temperature of boiling completely destroyed it. This statement has since been supported by our experiments and by those of others. It is true, also, that a temperature of from 160° Fah. to 180° Fah., will destroy diastase in a very short time, and any continued application of heat at or above 130° Fah. will within a moderate period render it inactive. Hence it is that we now doubt the advisability of applying any heat to a preparation of malt, and we certainly have every reason to believe that pharmacists generally will always be debarred through want of proper facilities from preparing an active malt extract unless it be as a fluid extract.

In the paper of Mr. Cowdrey, and as illustrated by his experiments, it was stated and shown that four drachms of a viscid-like extract of malt could quickly convert into dextrin and glucose five (5) drachms of starch which had been boiled with water. This conversion of gelatinous starch into glucose we have also easily accomplished by means of an equal bulk of fluid extract malt, although we do not claim that it is desirable to introduce a process into the Pharmacopœia to represent a proportion of crude material to the finished product different from that of the other fluid extracts. It is for the purpose of suggesting a formula for making such a preparation (fluid extract of malt) that we have written this paper, for in the literature which we have at our command on the subject, although the fact is shown that heat will destroy diastase, and that an extract can be made to contain diastase, any reference to the method of preparing such an extract is omitted.

To prepare a fluid extract of malt which will represent as nearly as practical one part of malt to one part of finished product, we have recently followed the process adopted by us with some other substances which will not bear the application of heat. Tall cylindrical percolators should be used, and a menstruum composed of a mixture of one part of alcohol to four parts of water. The ground malt is moistened with this menstruum, and after one hour is packed carefully into the percolator, and not too firmly. The remainder of the menstruum is then added, and when the percolate appears, the exit is closed, and maceration conducted for twenty-four hours. Then the percolate is slowly withdrawn until it is equal in weight to three-quarters the amount of malt employed. This product is placed in a tall vessel, permitted to settle, and then decanted. This decanted liquid is the finished fluid extract. We have found during our experiments that if less amount of alcohol is used, occasional fermentation follows. Hence it is that we suggest the above-named proportion. The specimen which we now exhibit was prepared after this process. To illustrate that it contains diastase in abundance, we will follow the line of experiment brought before our Society at its last meeting by Mr. Crowley. In presenting this paper, we trust that we will not be considered as participants in the malt controversy which has more or less agitated the pharmacists of some sections of our country during the past year. The substances offered, as far as we know, under the name malt extracts, and which our pharmacopœia recognizes as a malt extract, are entirely different in appearance from the preparation to which we refer. Our object is simply to bring before our Society a process which can be used by pharmacists with limited conveniences. Any process embodying the application of heat which we have investigated, tends, according to our late experiments, to destroy the diastase, and when, by evaporation at a gentle heat, the viscid-like extract is obtained, it will generally be found that as far as the diastase is concerned, it is in less amount, bulk for bulk, than in the liquid before evaporation, even if be not altogether wanting. Hence it is that we believe the simple process of percolation is best adapted to the wants of pharmacists generally, and we think such should be the officinal process for making extract of malt.

* Read at the Am. Pharm. Assoc. Meeting.

Label Varnish.

ONE of the best label varnishes is the following:

Sandarac (in coarse powder)	100	parts.
Mastic " "	40	"
Copaiba	15	"
Venice turpentine	30	"
Oil of turpentine	40	"
Alcohol	90	"
Absolute alcohol	90	"

Macerate until solution is effected.

Practical Remarks on Pharmaceutical Presses.

BY DR. B. HIRSCH.*

PHARMACEUTICAL presses vary in the system of construction and in power. The most simple kind—for preparing extracts—is a wooden cask with double bottom, the upper one being perforated with numerous holes and provided with a lid which may be screwed down by means of a wood-screw. The cask serves not only for pressing, but also for macerating the substance; it requires the employment of certain quantities which cannot be diminished or increased beyond a certain limit; it permits only a limited force of pressure; and is much liable to become leaky or otherwise unserviceable. But the principal drawback is this that the cask absorbs, in its pores, some of the extracted liquid which can be removed only by long continued washing. The same cask, therefore, can be used for other purposes only after much expenditure of labor and time.

Presses in which the substance and the expressed liquid come in contact only with metal, are not exposed to the last named defect; as a rule, they are of much smaller cubic capacity than press-casks; their principal mechanical parts are in most cases likewise made of metal, while their frame is made either of wood or of iron. There are various kinds of such presses: *screw-presses* with one or several, movable or immovable screws, sometimes augmented in power by wheel or endless-screw, or by a crank and lever; or the so-called *knee-joint* or *parallelogram-press*, first constructed by H. Reuleaux, and of great power on account of the combination of screw and lever; and finally *hydraulic presses* which are but seldom found in pharmaceutical laboratories.

The pressure of the mechanism in presses is exerted either *laterally*, as in the Reuleaux's or many screw-presses, or *vertically*, from above downward (in many screw-presses), or from below upward (in hydraulic presses). If the pressure is lateral, the press-plates are vertical; if the pressure is vertical, the press-plates or the bottoms of the press-boxes are horizontal or slightly inclined. Accordingly the two latter are called *plate-presses* and *box-presses*, each of which has its own special advantages.

Plate-presses require of necessity that the substance to be pressed shall be inclosed in a wrapper. The latter is most economically made in form of a bag, which when filled is firmly tied and suspended between the plates. If press-cloths are used, a relatively much greater quantity of the fabric is required, or they must be tied and supported by twine in order to prevent the contents from being spilled. Hence it is difficult to use press-cloths for damp precipitates which have been collected upon paper or linen. If the press is not very cautiously set in motion, a portion of the liquid, or—if the cloth gives way—a part of the pulpy mass itself, is liable to be projected beyond the surfaces of the plates. But, even with the most careful manipulation, a considerable part of the surfaces of the press-plates must be diverted from their proper use—which is to transmit the pressure derived from the mechanism upon the mass—inasmuch as a space of at least a few centimeters must be left free all around, so that the expressed liquid may be not be forced beyond the surface of the plates and be lost. Supposing we have a square press-plate one side of which is 32 cm. (12¾ inches) long, and a margin of 3 or 4 cm. (1 3/16 or 1 5/8) be left unused all around, the total unused spaces will be, in the first place 34, in the second place 43.75 per cent of the total surface. If the plate is not square, the loss is still greater. On the other hand, these presses have the advantage that the liquid runs off with the greatest ease, which is of some importance in the case of easily oxidizable or volatile liquids. Besides, they may be set so as to remain immovable,† or, if it is desired to keep up a steady pressure for some time, the end of the lever may be suitably weighted, which will cause it to gradually work automatically, as the liquid is slowly pressed out of the mass (for instance, in the case of damp precipitates, or when expressing almond oil or butter of cacao).

Box-presses permit, in many cases, pressure of the substance directly or wrapped in a comparatively small cloth. Precipitates collected upon cloth or paper are easily placed in such presses, and a loss of substance may readily be avoided, which is not the case in plate-presses. Even if the cloth should tear, or the pressure should be exerted incautiously, the mass or the liquid are not so apt to be scattered about, but to be arrested by the sides of the box. In the cases of substances which are loosely placed in the box, the whole surface of the press-piston is utilized; how far the latter can be utilized when the substance is inclosed in bags, depends greatly upon the shape of the box. This is generally constructed round, while the press-bag or the folded press-cloth are usually square or rectangular. But, if inside of a circle there be placed a square of such a size that its four corners touch the circumference of the circle, there will remain four uncovered segments, the total surface of which will amount to 21.5 per cent of the total area of the circle, and if a parallelogram be placed inside of the circle, instead of the square, the area of the unused segments will become still greater, in proportion as the parallelogram deviates more and more from the square. Circular press-bags can only be made with much waste of material and, after strong pressure, would scarcely admit of being emptied without ripping open the seam. Hence it is of greater advantage to make the area of the press-box correspond to the shape which the press-bags assume after pressure. This shape, even if the four corners retain their position, does not remain square or rectangular, but the four sides bulge out to a certain degree so as to form a more or less convex line from one corner to the other. If this shape be given to the boxes, then the press-surface will be utilized to the fullest-possible extent. Hence it will be best to adopt for press-boxes the general form of a square or parallelogram with convex sides and rounded off ends (to facilitate cleaning). If the form is square, the best proportions are 40 centimeters (15¾ inches) from corner to corner, and 45 cm (17¾ inch.) from centre to centre of the opposite convex sides. And if the form is rectangular, 40 and 45 cm. respectively, from corner to corner, and 45 and 51 cm. (20¼ inch.), respectively, from centre to centre of the opposite convex sides. The out-flow or gutter starts from the middle of one of the sides, the longer one being selected in the case of the parallelogram.

In the case of substances which yield up their liquid only with difficulty and slowly, it is advisable to pack them in two oblong bags which are introduced together with a short interval between them. The liquid in the centre will then have a thinner layer of compressed mass to penetrate, and will, therefore, more readily exude from the bags. The latter may be made, for this purpose, somewhat conical, being a little wider at the mouth, so as to facilitate the removal of the cake.

From a horizontally situated press-box the last portion of the expressed liquid flows off only imperfectly and if the pressure is removed, a portion of it may even be again soaked up by the cake and its cover; for this reason, such presses are usually so constructed that they may be inclined. On renewing the pressure, however, they must be brought back into a horizontal position and then again inclined. They cannot be set immovably and require to be made very strong and with great care lest the repeated motion to and fro produce a dangerous break. It is not convenient to exert a steadily increasing pressure for instance, by a weight, upon a horizontally working lever; the latter should for this purpose be converted into a vertical one by means of cog-wheels.

Sometimes the press-box is supplied with a perforated inset, either of the same shape as the box, or merely a lateral ring. This, of course, permits the liquid to pass out much more readily both at the sides and below. But, the cleaning of the insets, after pressing out liquids which do not readily mix with water, is troublesome, and the substance

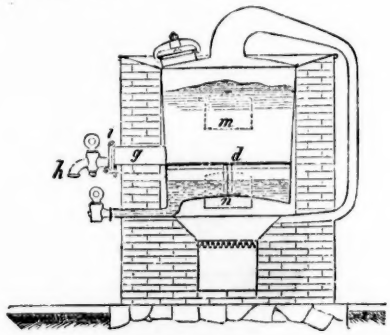
* From the author's new work, entitled "*Vergleichende Uebersicht zwischen der ersten und zweiten Ausgabe der Pharmacopœa Germanica*" (see our June number, p. 1-9).

† The author means that, after a certain pressure is attained, the lever may be set so as to preserve the pressure; yet this may be done in most other forms of presses likewise.—ED. N. R.

to be pressed must always be inclosed in a cover. In the case of box-shaped insets, the drain may advantageously be made in the bottom of the box, and conducted to a receptacle below the press, by a tube.

The press-plates, boxes, and pistons are often cast hollow so as to permit of being heated with steam or hot water. They are generally made of iron, covered with tin-plates or tinned sheet-iron. Copper, even if tinned, is unsuitable, since it may easily contaminate the expressed liquid. In such cases, where contact with tin injuriously affects the liquids—as, for instance, in many fruit-juices—the press-surfaces must be of wood.

In accordance with the principles here laid down, I have had a press constructed, in 1876, by Emil Oberdörffer, of Hamburg, which has found an extensive patronage, and which really possesses, in my judgment, all those advantages which can be expected in a press. It is a box-press with knee-joint lever, of pleasing exterior, occupying but little space, very easily worked and of extraordinary power. (It has been fully described and illustrated in NEW REMEDIES, 1880, p. 103.)



Apparatus for the Fusion of Fats or other Substances Evolving Disagreeable Gases.

THE principle of the old-fashioned alcohol blast-lamp has been applied to the construction of an apparatus, which may be made of any size, for melting or otherwise treating organic substances giving off disagreeable gases. Its arrangement is readily intelligible from the cut. The escaping vapors are conducted into the furnace, where they are burned, help to increase the heat, and shorten the operation. The special apparatus here illustrated is destined for melting fat, which is placed upon the bottom *d*. The gases from the fire-hearth are first conducted away through *m*, so that both the water (which occupies the space under *d*), and the portion filled with fat are heated by it. Afterwards they are conducted away through *n*, whereby the water only is heated. (*Germ. Patent* 21,291, granted to F. Joseph Kurz, of Würzburg.)

The Chemical Examination of Fats.

BY KARL ZULKOWSKY.

(Abstract from *Ber. d. Deutsch. Chem. Ges.*, 1883; 1140.)

SOME time ago, Mr. Max Gröger* subjected Hausamann's† method of testing a mixture of neutral fats and fatty acids to a thorough study in my laboratory. He succeeded in improving and simplifying the method to such a degree that it is now a much easier task to examine such a mixture than one of caustic and carbonated alkali. The method is based on the fact that

> a fatty acid in alcoholic solution is instantly saponified by addition of an alcoholic solution of potash, while the saponification of a neutral fat requires protracted boiling.

If, therefore, the alcoholic solution of the mixture of fatty acids and neutral fats is mixed with a little phenolphthalein, and then titrated with caustic potash, the red color caused by the latter reagent disappears on stirring as long as free fatty acids are present. As soon as these are saturated, the red color remains. If now a known excess of caustic potash be added, and the mixture boiled for half an hour, the neutral fat is saponified. By titrating back with standard acid, the volume of the solution of potash consumed in the saponification is ascertained.

From the amount of standard alkali thus consumed in the saponification of the fatty acids and of the neutral fats, the respective amounts of these are calculated. It is even unnecessary to know the weight of the mixture of fatty acids and fats.

The study of the method has shown that it yields very accurate results, and that it is indeed a real *mine*, from which still other useful processes may be derived for the technology of fats.

In the following, I will mention several cases in which the method will afford important information.

1. It enables us to determine the *equivalent* of a fat, that is, the amount which is saponified by an equivalent of normal alkali. Under certain circumstances, this figure permits a conclusion as to the source and nature of the fat. In the analysis of butter, for instance, it will enable us to determine whether we have natural or artificial butter before us. Whether a mixture of both can be detected by this method, further experiments will have to determine.

2. The method permits us to determine the percentage of glycerin in any fat directly and in the most simple manner. When titrating a neutral fat or a mixture of fats, the following reaction takes place:

$$\underset{\text{the neutral fat}}{C_3H_5(O.x)_3} + \underset{\text{potassa}}{3KOH} = \underset{\text{glycerin}}{C_3H_8O_3} + \underset{\text{potassium salt of the fatty acid.}}{3(xO.KO)}$$

[We have placed the letter x to represent any fatty acid in combination. It therefore stands for: $C_nH_{2n-1}O$].

According to this equation, for every liter of standard (normal) alkali, ⅓ of an equivalent or 30.667 gm. of glycerin are separated; hence, 1 cc. of standard (normal) alkali corresponds to 0.030667 gm. of glycerin.

Method of Separating and Determining Lactic Acid.

UNTIL the present time, not a single insoluble lactate has been known—a disagreeable fact for physiological chemists, who often meet with lactic acid in their investigations, but who were able to identify it only by the crystalline form of the zinc salt. I believe the following method of rapidly separating lactic acid and determining it quantitatively will be found reliable:

If a solution of basic acetate (subacetate) of lead be mixed with an excess of spirit of ammonia (alcoholic solution of ammoniacal gas), say in the proportion of one to five or six, whereby a clear or, at most, only opalescent solution results (unless too much spirit of ammonia be added), and lactic acid be now added (the more concentrated the better), an amorphous white precipitate is at once produced. All of the lactic acid is precipitated as a lead salt. The same precipitate is produced, if solution of subacetate of lead is added to a mixture of lactic acid and spirit of ammonia. But the reaction is performed to best advantage if spirit of ammonia be added to a mixture of basic acetate of lead and lactic acid as long as a precipitate is produced. The smallest quantities of lactic acid may thus be precipitated and detected with certainty. The precipitate forms immediately, is white, amorphous, and heavy (like chloride of lead), and settles at once to the bottom. It is soluble in much water, in acetic and lactic acids, and caustic potash, but insoluble in alcohol. It is, therefore, advisable to wash the precipitate with alcohol. On being dried upon the filter, it cakes together, and forms translucent pieces resembling dextrin.

The precipitate was found to contain, in the mean, 78.5

* *Dingler's Polyt. Journ.*, 244, 303; 246, 286.
† *Ibid.*, 240, 62.

per cent of oxide of lead, from which it appears that the salt has the composition $3PbO,2C_3H_6O_3$, for, according to this formula, the salt contains 78.8 per cent of lead oxide. —R. PALM, in *Zeitsch. f. Anal. Chem.*, 1883, 223.

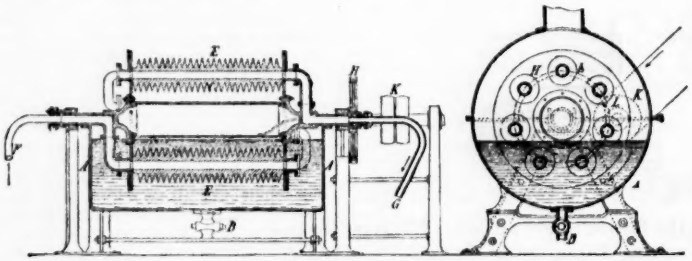
Old Manuscript Ink.

THE following formula is said to have been in use in 1654, and to have produced an ink of great permanency, if one may judge from manuscript written by the person who is the authority for the formula. One and one-half drachms of coarsely-powdered galls, six drachms of sulphate of iron, ten drachms of gum-arabic, and one pint of soft water, are to be placed in a bottle, which is to be securely stoppered and placed in the light (sunlight if possible). Stir the contents occasionally until the gum and copperas are dissolved, after which the bottle should be shaken daily. In the course of four to six weeks the ink will be fit for use. The addition of ten drops of carbolic acid will prevent the formation of mould.

Apparatus for Rapid Evaporation.

PERRÉ FILS and QUIDET have constructed a new apparatus for rapid evaporation, which is said to be exceedingly effective, owing to the comparatively great amount of evaporating surface exposed to the air within a given time.

It consists of a vat, boiler, or other receptacle *A* for the liquid to be evaporated, and of a series of ribbed tubes which dip successively into the liquid, as soon as the system is caused to revolve by the shafting and pulley *K*, *H* and *I* (see both figures). Steam enters all the tubes through the hollow axle *F*, and escapes through *G*.—*Rev. Indust.*, 1883, 153.



Apparatus for Rapid Evaporation

Relative Purity of Snow Water.

AT the recent meeting of the American Pharmaceutical Association, Mr. Geo. W. Sloan, of Indianapolis, presented an answer to query No. 2, viz.: "It has been said that, if snow formed in any month but April he melted and bottled, the water will become ropy; that snow which falls during April, on the contrary, will furnish water which will remain limpid the summer through, and which can be used by pharmacists and photographers."

The results of experiments made by Mr. Sloan, and analyses by John N. Hurty, M.D., show, in brief, that "it is not the month of the year, but the condition of the atmosphere at the time of the falling of the snow to which must be attributed the variations of snow water: for it is shown that, when the atmosphere has been washed by a rain, just preceding the snow, the water from that snow shows a minimum of impurities, whereas that obtained from snow not preceded by rain shows an increase. As the month of April probably gives the phenomenon of rain changing into snow more frequently than some of the other months, it was quite natural that the fact should be attributed to the month, without ascertaining the real cause."

Benzoate of Cinchonidine.

THIS salt is prepared, according to Byasson, in the following manner:

Dissolve 60 parts of benzoic acid in 200 parts of alcohol of 90%, and pour the solution into a porcelain vessel containing 3,000 parts of boiling distilled water. On the other hand, dissolve 200 parts of sulphate of cinchonidine in 2,000 parts of water, with the aid of diluted sulphuric acid and precipitate with ammonia. Wash with a small quantity of cold water. Add the still moist precipitate to the hot solution of benzoic acid, and filter while hot. If the solution is not faintly alkaline, make it so by the cautious addition of ammonia. On cooling, the benzoate of cinchonidine separates in form of small, thin, prismatic needles, much resembling the neutral sulphate of cinchonidine. By evaporation of the mother-water, a new crop of crystals is obtained, which are added to the first, and then washed with cold water. The yield is about 200 parts.

Bouchardat recommends this salt in mild cases of diabetes with excessive uric acid production, which he calls "glyco-polyuric diabetes." He follows the authority of Ure, who states that benzoic acid unites with uric acid, and forms hippuric acid or alkaline hippurates, which are both more soluble than uric acid or urates.—*Pharm. Post*, No. 34.

Alteration in the Secretion of Milk under the Influence of Drugs.

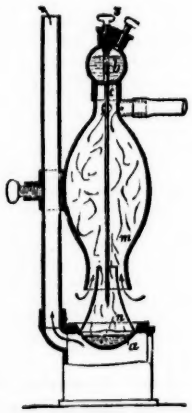
ACCORDING to Stumpf, when iodide of potassium was administered to goats, the yield of milk was reduced, while the percentage of fat and sugar was raised; salts and albuminoids were unaltered; the reaction became alkaline Small doses of acetate of lead produced no change of composition in the milk, nor altered the yield; the same negative results were obtained with morphine. Pilocarpine at first only reduced the sugar. Salicylate of sodium considerably raised the yield Alcohol did not alter the yield, but the solids increased, whilst the specific gravity increased. When beer was given, the specific gravity fell, but the fat rose in quantity, as did also the sugar.—*Journ. Chem. Soc.* fr. *Biederm. Centralb.*

Samarium.

THE existence of this new element, first imperfectly observed by Delafontaine, in 1878, and by him named "decipium" (owing to its "deceptive" characters), and afterwards more exactly made out by Lecoq de Boisbaudran (who named it Samarium), has now been put beyond question by the researches of Prof. P. T. Cleve. This chemist finds that the element and its salts are most closely related to didymium. It yields a peculiar spectrum, composed of several bands, among which four in the blue part of the spectrum are most characteristic. Its atomic weight (based on the assumption that the oxide has the composition Sm_2O_3, which follows beyond doubt from its other properties) is 150.

Copper in Pickles.

THE Court of Appeal in Brussels has just decided that the objection to pickles, artificially colored green by the contact of the vinegar with copper utensils, is a mere prejudice. Some manufacturers of pickled gherkins in that city, having been condemned in December last to a fine for having, in the technical language of the judgment, "sold or exposed for sale certain substances affected by copper verdigris, of a nature to cause the death of the consumer, or at least to produce effects injurious to health," one of the condemned appealed, and the case has necessitated the examination of scientific witnesses, and the hearing of arguments from eminent counsel on both sides. On the part of the prosecution, M. Depaire, ex-Professor of Chemistry in the University of Brussels, deposed that salts of copper are unquestionably poisons. For the appellants, however, M. Dumaulin, Professor of Chemistry in the University at Ghent, declared with no less confidence that such salts are "incapable of doing any harm." This witness even stated that so certain was he on this point, he himself, as well as his wife and children, had taken a strong dose; that so far from being unwell, they had felt better for the experiment. M. Dumoulin's emphatic assertion that the "*sels de cuivre*" had been calumniated by science, is stated to have caused a strong sensation among the parties interested in court. Finally judgment, free of costs, was given for the appellant.—*London Daily News.*



Apparatus for the Inhalation of Gases.

A CONE-SHAPED glass cylinder *n* projects into the mixing vessel *m*, which is closed above and open below. The glass cylinder sits upon a capsule *a*, containing the liquid to be inhaled, and evolving the vapors of the latter mixed with air. In the upper part of the mixing vessel a globular receptacle contains a quantity of the liquid to be inhaled; by loosening the stopper at *s*, and the vent situated alongside of it, a suitable quantity of it may be caused to fall into the capsule. The evaporation of the liquid may be hastened by warm or hot water introduced below the capsule. (*German Patent* 22,228, granted to Wilhelm Fels, of Barmen.)

New Reactions characteristic of Salts of Gold.

IF we pour into a small vial a few drops of a dilute solution of gold chloride some drops of arsenic acid, two or three drops of ferric chloride, and the same quantity of hydrochloric acid, and about 100 *cc.* of water, and introduce a fragment of zinc, the liquid soon takes a purple color in the neighborhood of the zinc, and on shaking, takes throughout a fine rose or purple color. The experiment thus conducted may last for half an hour, but it is completed in a few moments if we use some centigrams of zinc powder and shake the vial. The rose coloration is also immediate if we pour into the solution of the salt of gold, prepared in the same manner, some drops of the liquid obtained by attacking metallic iron with dilute hydrochloric acid, or, better, by heating it with a mixture of hydrochloric acid and arsenic acid. It is diluted with water, and left in contact with an excess of metal.

This reaction is extremely sensitive. If one millionth part of gold is present, the change of color is very visible, and it may be distinguished even with a proportion of gold one-half less. The author proposes showing, at an early opportunity, how the same reaction may be applied in quantitative determinations. If phosphoric is used in place of arsenic acid, the coloration is blue or violet. Hydrochloric acid alone gives a rose coloration, but less bright than with the addition of arsenic acid.—*Ad. Carnot* in *Comptes Rend.*

Poisoning of Plants.

BY C. KRAUCH.

IT is well known that certain solid and gaseous substances act destructively on plants. In this article we have additions to the literature of the subject. Ammonium thiocyanate (0.25 gram and upwards per liter) is a powerful poison to germinating as well as to developed plants.

Solution of zinc sulphate (0.1 gram per liter) kills barley and grasses, previously causing brown spots to appear on the leaves, but what the action is remains unknown. Sodium chloride, in small quantities, acts as a manure, but when its concentrated solutions are applied to grasses they die, and their ash contains an abnormal percentage of this compound.

In practice, manuring with salt may produce undesirable results if the weather be dry, for then its solutions become concentrated and, moreover, chlorides of calcium, magnesium, and potassium are formed, and washed away, as well as phosphates, which are rendered soluble by sodium chloride.—*Bied. Centralbl. f. Agric. Chem.*, 1883, 46.

Organic Bases Present in Commercial Amylic Alcohol.

L. HAITINGER has found that commercial amylic alcohol usually contains organic bases, which may be detected and separated by shaking the alcohol with diluted hydrochloric acid, evaporating the solution, and distilling the residue with solution of potash. The resulting distillate then has usually a strongly alkaline reaction, and has been found to consist, in some cases, of pyridine (as shown by the peculiar odor and by the formation of a double salt of pyridine and platinum); in other cases, of a little pyridine, and another base not further examined.

The quantity of these impurities never amounted to more than 0.1 per cent. Haitinger thinks that the bases are perhaps formed in consequence of a peculiar splitting up of the albuminoids, or through the nitrous "fermentation," whereby amyl nitrate is first formed, and from this, by elimination of water, pyridine.—*Nieuw Tijdsch. v. d. Pharm.*, from *Monatsschr. f. Chem.*

Aluminium Sulphate.

PURE hydrated aluminium sulphate crystallizes in rhombic prisms, which are not hygroscopic, but, on the contrary, show a marked tendency to effloresce. Analyses of these crystals, prepared by different methods from different sources, prove that they have the composition $Al_2(SO_4)_3 + 16H_2O$. The formula $Al_2(SO_4)_3 + 18H_2O$, generally given to the hydrated salt, has been deduced from analysis of impure specimens containing ferric sulphate. The presence of a small quantity of ferric sulphate in aluminium sulphate makes the latter hygroscopic.

The natural aluminium sulphate found at Rio Saldana has the composition $Al_2(SO_4)_3 + 16H_2O$.—P. MARGUERITE-DELACHARLOUNY in *Compt. Rend.*

Influence of Calomel on Fermentation and the Life of Micro-Organisms.

(ABSTRACT OF A PAPER BY N. P. WASSILIEFF.)

CALOMEL has always held a foremost place amongst those remedies which are confidently resorted to in certain gastric and intestinal disorders, especially of childhood, but the precise nature of its beneficial effect has heretofore been unexplained. Recent works on pharmacology pass over the question, and only Kohler refers to the favorable action of the drug in typhus, cholera, dysentery, and other diseases, as being due to the germicidal and anti-fermentative qualities. No evidence in support of this view is adduced. Voit, however, had noticed in 1857 that egg-albumin and blood, when mixed with calomel, remained for days without undergoing putrefaction Hoppe-Seyler also mentions an aseptic influence of calomel, and ascribes to it the well-known color of bowel discharges after an administration of calomel.

The author undertook this investigation at the request of Hoppe-Seyler, first, in regard to the behavior of calomel towards the so-called unorganized fluids (enzymes), and secondly, as to its action on the lower organisms associated with the processes of fermentation and putrefaction. The first series of experiments were made in order to determine the influence of calomel on the normal process of digestion in the stomach. The results proved that its presence in no way interfered with the properties of the gastric juice, fibrin being digested in the same time, whether calomel was present or not. In the next series, the influence of calomel on the process of pancreatic digestion was investigated. It is now known that three separate ferments exist in the pancreatic secretion by which albuminates, fats, and carbo-hydrates are severally transformed and fitted for assimilation in the system. The object in view was to observe the possible influence of calomel on each of these respective ferments. For the purpose of experiment, a watery extract was prepared from the finely-minced gland and strained through linen. It was found that the action of the ferment, by which albuminates become digested, was in no respect hindered by the presence of the calomel, and further, that there was a conspicuous absence from the liquid mixture of all products of putrefaction. In the mixture containing calomel large quantities of leucin and tyrosin were found, whilst indol and phenol were absent. In the mixture without the addition of calomel, the two latter bodies were both present, but only traces of leucin and tyrosin. The latter solutions had likewise a putrid smell and a dirty-brown color, whilst the former was of a dark-gray color, and odorless. In some additional experiments wherein the process was allowed to proceed in a Bunsen gasometer, and the evolved gases examined, it was found that from the mixture containing calomel hydrogen and hydrogen-sulphide were never given off, and carbonic anhydride in very considerably less amount than from the control mixtures without calomel. These results accord with those of Hüfner (*J. pr. Chem.*, 10 and 11), who found, in his experiments on artificial digestion with pancreatic extract, that when, by means of a properly-arranged apparatus, entrance of micro-organisms was prevented, neither hydrogen nor hydrogen-sulphide made its appearance, but only carbonic anhydride. These two first-named gases have therefore nothing to do with digestion proper, but are the result of putrefactive changes brought about by the presence of microzymes in the alimentary canal.

The action of calomel on the ferment of the pancreatic juice, to which the digestion of fat is due, was next examined. The existence of such a principle has, until now, been considered highly doubtful, Paschutin's observations on this head being all that is known of the subject (W. Paschutin, *Ueber Trennung der Verdauungs-Fermente; Centralbl für die Medicin. Wissensch.*, 1882). As in putrid solutions, fats became saponified rather quickly; the problem became an important one to determine whether the transformation of fat in the alimentary canal was owing to the action of an unorganized ferment or merely to the putrescent changes going on there. The experiments made proved beyond a doubt that the action of pancreatic juice upon fat took place in the complete absence of putrefaction, and the digestion of the fat by the pancreatic extract in presence of calomel proceeded precisely as in the instance of the experiments in regard to the peptic ferment (trypsin) of that gland. The action of the third and remaining ferment of the pancreas, the diastatic, upon starch, and the transformation of the latter into glucose, proceeded equally undisturbed in the presence of calomel. Hence it follows that calomel, by its presence in these experiments on artificial digestion, allows the actual process of digestion to go on without injury, whilst it effectually prevents putrefactive change. And this, in the same way, is proved for salicylic acid by Kühn, and, in the case of arsenic, by Scheffer and Böhm.

The author also found the action of calomel in the process of butyric acid fermentation, which sometimes occurs in certain pathological states of the digestive system, similar to that in common putrefaction, entirely preventing it. A further series of experiments, which need only be referred to here, were carried out to determine the disinfectant action of calomel in fluids containing bacteria and micrococci, the bacterioscopic method of Bucholtz-Wernich being used. The results showed that calomel acted as a true antiseptic and disinfectant in preventing the development of such organisms in culture fluids, and arresting their activity when already developed therein. The difference in the influence of calomel on the process of digestion on the one hand and on putrefactive and fermentative changes on the other, is dependent upon a distinct difference of action on unorganized ferments. Whilst it does not interfere with the activity of the latter, it destroys the vitality of the former, and with it the power of inducing subsequent septic changes. Finally, as regards the green color of the bowel discharges witnessed after the exhibition of calomel, this was formerly attributed to the presence of bile, expelled by virtue of the assumed action of calomel as a cholagogue, this appearance was considered by Hoppe-Seyler to be due to the presence of undecomposed bile, and the author's experiments now confirm this view.

Under ordinary conditions, the bile pigments, bilirubin and biliverdin, become decomposed in the intestine under the influence of putrescent changes, forming hydrobilirubin. During the administration of calomel this decomposition does not take place, and the bile pigments are expelled unchanged. The author concludes that the therapeutic virtues of calomel are to be ascribed to its antiseptic and disinfectant properties.—*Zeitsch. Phys. Chem.*, 6, 112, in *Journ. Chem. Soc.*

The Composition and Molecular Weight of Subsulphate of Iron (Basic Ferric Sulphate).

MR. SPENCER U. PICKERING has published the results of a series of experiments made with a view of determining whether the composition and molecular weight of subsulphate of iron is $2Fe_2O_3, SO_3$ (= 400), or $Fe_2(SO_4)_3$, $5Fe_2O_3$ (= 1,200). He attempted to solve the question by ascertaining the unit of water removable from a hydrate specimen of it. His experiments (published in tabular form in the original) prove almost conclusively that no more complex formula than the triple one $[Fe_2(SO_4)_3, 5Fe_2O_3.xH_2O]$ is required, for between the extreme hydrates actually obtained, thirty-three different hydrates are possible if the molecular weight be 1,200 (corresponding to the triple formula), and, if the molecular weight were double, namely, 2400, 66 hydrates would be possible. Now, of these possible hydrates 14 have been obtained, all of which correspond to the molecular weight, 1,200, and not to 2,400. The odds, therefore, in favor of the true weight being 1,200 will be found to be about 95,000 to 1, and making allowance for the fact that many of these hydrates were obtained several times, these odds will be increased to as much as 14,400,000,000,000 to 1; in other words, it is practically a certainty that the molecular weight of basic ferric sulphate is 1,200, and that it may therefore be represented by the formula $Fe_2(SO_4)_3$, $5Fe_2O_3.xH_2O$, but not by any simpler or more complex formula.—*Journ. Chem. Soc.*, xliii., 182.

Ceylon Gamboge.

A CORRESPONDENT of the *Weekly Ceylon Observer* inquire why gamboge should not be collected in Ceylon. He points out that fifty years ago Dr. Pereira described the color of Ceylon gamboge as excellent and its medicinal effect as precisely the same as that of Siam. Dr. Pereira speaks of two kinds, the goraka and the *kana* (Sinh. "eating") goraka, and says further that "there seems to be no difficulty in obtaining the gamboge in a pure state, and if so it might become an article of commerce from Ceylon." Although this was stated in 1832, Ceylon gamboge has not yet become an article of commerce. The correspondent adds that Pereira's statement that there are two kinds of goraka is a mistake. There are as many varieties as regards shape of leaf, color of flower and fruit, and shape, size, and flavor of fruit, as there are of mangoes, plantains, and all other fruit. The varieties hardly deserve botanical distinctions. The coarse gamboge sold in the bazaars is not what is collected in Ceylon, but is imported from Southern India. What is collected in the island is never sold. It is used sometimes by the Buddhist priests to dye their robes, a mixture with sapan dye giving, thus, brownish yellow or yellowy brown, which distinguishes the robes of the Amarapura sect of priests. It is used also to color mats, for painting walking-sticks, spears and bones, doors and walls of temples, etc. The mangosteen (*Mangostana cambogia*) belongs to the same or similar family, and from the rind of the green fruit, particularly, the gamboge flows abundantly on mere pressure. There are some of the Ceylon gorakas yielding fruit quite as delicious for eating as the mangosteen. The half-ripe rind of some of the Ceylon varieties is dried and sold in the bazaars for pickling fish with. It has a peculiar sharp acid flavor. There is a variety grown in fruit gardens known as the *rata* (foreign) goraka. The fruit is quite yellow when ripe, and, like the mangosteen, round with a smooth surface, but the rind is soft, not leathery or rough. The seeds of this kind are, like the mangosteen and goraka, covered with a pulp, not white, but yellow in color, and, though sweet, quite different in flavor from that of the mangosteen or goraka. The tree resembles the mangosteen, but is smaller in size. The leaves are as large, but of a darker green and with a greater droop. Can this be the *Garcinia Hanburii* of Siam? It is not a favorite fruit. When ripening it is picked and pickled in vinegar, the seeds being removed and the fruit stuffed with other pickled fruit, etc., finely chopped. It seems that the goraka was considered of such little value that immense numbers have been felled from private and crown lands, and supplied to the railway as fuel. Measures should be taken to stop this wasteful destruction. As regards the mode of collection, the writer thinks it is very doubtful if the stick gamboge is collected by bamboos being placed below incisions in the tree for the liquid to flow into. The liquid exudes very slowly, and dries too soon to flow. The peculiar marks in the stick gamboge are usually attributed to the inner formation of the bamboo in which it is collected, but he is inclined to think it is the result of the daily additions of the semi-dried liquid put in as soon as it is *scraped* off from the tree. The few natives who gather it do exactly as was described by Colonel and Mrs. Walker in 1839. A piece of bark from the trunk, about the size of the palm of the hand, is cut off and the resin scraped off it next morning. By boiling the leaves, the rind of the green fruit, etc., a gamboge, inferior only as a coloring matter, is obtained, but with care and using the scraped and clean bark only, gamboge as a dye-pigment ought to be obtained in this way too. The goraka tree is now scarce in the Central Province, owing to its destruction when the forests were felled for coffee. But countless numbers yet remain in the island along the western coast from north to south. It would, however, be difficult for Europeans to set about collecting the gamboge, as the trees are so scattered over the country. A group of five to ten trees together in a plot is rarely found.—*Pharm. Journ.*, July 28th.

Purification of Citric Acid contaminated with Iron.

DURING the last Russian-Turkish war, 40,000 pounds of pure citric acid, which had been carelessly packed in tinned iron cans, had become spoiled by taking up about one per cent of iron and zinc. The government thereupon called upon various officials to search for a method of restoring the acid to its pure condition. In compliance with this demand, Mr. W. Meyke, Mag. Pharm. of Warsaw, devised the following process, the only one which he found to be followed by success:

To a cold filtered solution of 16 parts of the impure citric acid in 96 parts of distilled water, there were added, under constant stirring, and with avoidance of much heat, 21 parts of chloride of lime, or so much of it as the liquid could dissolve. The liquid was then rapidly strained to remove suspended impurities, and heated to boiling, whereby the calcium citrate was completely separated, while the chlorides of iron, zinc, and manganese remained in solution, and could be easily separated from the precipitate by washing. The precipitated citrate of calcium was immediately transferred to a strainer, and washed with boiling water until the washings were no longer precipitated or rendered brown by sulphide of ammonium. When carefully operating, the yield of citrate of calcium amounted to about 20 parts. This was mixed, while still moist, and under application of heat up to boiling, with enough diluted (1.5) sulphuric acid, until a filtered portion mixed with an equal volume of strong alcohol and again filtered, showed a slight excess of sulphuric acid, when tested with nitrate of barium. After the citrate of calcium was completely decomposed, the solution of the pure citric acid was separated from the sulphate of calcium by filtration, evaporated to nearly a syrupy consistence, and set aside so that the gypsum could deposit. The liquid was then decanted, the precipitate washed, the united liquids further evaporated on the water-bath, and then set aside to crystallize, which was much accelerated by placing in the liquid a small crystal of citric acid.

Sixteen parts of impure citric acid thus purified, yield 12 parts or 75 per cent of perfectly pure and white crystallized acid.

The cost of purifying one pood (36 pounds) of the impure acid, deducting the value of the gypsum obtained as a by-product, and adding the value of the lost acid, amounted to 25 roubles, 64 kopeks, or $18.40.—From *Pharm. Zeitsch. f. Russl.*, No. 19.

Determination of Zinc as Sulphide of Zinc.

BY R. MACARTHUR.

THE solution, which should be as neutral as possible, is rendered alkaline with ammonia; then add acetic acid to acid reaction, pass sulphuretted hydrogen through till the zinc is completely precipitated; allow to settle, carefully decant the clear liquid, then fill the beaker up with strong sulphuretted hydrogen water to which has been added a solution of ammonium acetate, repeat twice, then transfer to filter, and dry. The ignition is performed as follows:

A No. 6 Hessian crucible has a hole drilled through the bottom large enough to admit the flame from a Bunsen burner. About ½ inch above the bottom a smaller hole is drilled to admit a glass tube, which is bent upwards inside the crucible. The crucible in which the ignition is conducted is suspended in a triangle, about the centre of the Hessian crucible. When ready for ignition an energetic current of hydrosulphuric acid gas is passed through a drying tube, then through the glass tube into the crucible. The filter is ignited on the crucible lid, the flame of the lamp playing up through a large hole. Lastly, the crucible containing the ZnS is introduced, the lid put on, and ignited at a red-heat for about ten minutes. Care must be taken to keep a steady stream of hydrosulphuric acid gas running.

By this method I have obtained the following per cent of same material: No. 1, 92.180 per cent Zn; No. 2, 91.951 per cent Zn.—*Chem. News*, April 6th.

The Carbonic Acid in the Amosphere.

AN important paper on this subject, written by E. H. Cook, has recently appeared in the *Philosophical Magazine*. Taking the polar diameter of the earth as 7,899 miles, the equatorial diameter as 7,925.5 miles, and the height of the homogeneous atmosphere as 26,214 feet—nearly five miles—the cubical contents of the homogeneous atmosphere is found to be 591,647,337 cubic miles, or in round numbers, 592,000,000 cubic miles. If the average amount of carbonic acid in the atmosphere be taken as 4 vols. in 10,000, the total amount of carbonic acid is 236,800 cubic miles, and the total weight 4,287 billions of pounds, or, 1,913,685,908,480,000 kilos. These numbers differ considerably from those given by Dumas and Baussingault, and from that given in Roscoe and Schorlemmer's "Chemistry." The first of these is nearly forty per cent, and the second about thirty-three per cent too high.

Recent investigations, however, show that the proportion of carbonic acid in the atmosphere is not so high as 4 vols. in 10,000. Fithbogen and Hasselbarth found 3.4 vols. in 10,000; Farsky, 3.4 vols., and Reiset 2.942 vols.; and if the mean of these be taken, the total weight of the carbonic acid in the atmosphere is nearly 1,545 billions of kilograms. The average amount of coal raised annually in the world during the last three years is about 280,000,000 tons. Assuming that this contains seventy-five per cent of carbon, ten per cent of which is thrown away with the ash, 182,000,000 tons of carbon are annually converted into carbonic acid, which gives a daily production of 1,800,000 tons, or nearly 1,800,000,000 kilos. Assuming that one-third more is produced by the combustion of wood, peat, oil, etc., the total daily production by combustion is 2,400,000,000 kilos. The present population of the world is about 1,500,000,000, and each individual produces on an average a kilogram of carbonic acid in twenty-four hours. Assuming that twice as much carbonic acid is produced by the respiration of the lower animals as by man, the total amount produced by respiration is 1,500,000,000 kilos per day. The amount produced by the decay of animal and vegetable matter may be taken as equal to that produced by the respiration of man, and the amount sent into the air from subterranean sources may be fairly assumed to be five times as great as the total amount derived from all the other sources together. This gives about 40,000,000,000 kilos per day. Adding all these quantities together, it is found that the total amount of carbonic acid daily added to the atmosphere is at least 50,000,000,000 kilos, from which it follows that if no compensating influence were at work, the proportion of carbonic acid would be doubled in about one hundred years.

The causes which remove carbonic acid from the air are fixation of carbon by plants, removal of the acid by zoophytes, and absorption of the acid by inorganic chemical action. In the first case alone is oxygen returned to the atmosphere; in the other two cases the carbonic acid is absorbed as a whole. The total area of the land surface of the globe is, according to Saunders, 57,600,000 square miles. Of this 8,200,000 square miles are in arctic and antarctic regions, thus leaving 49,400,000 square miles on which vegetation might flourish. A considerable portion of this area is, however, occupied by barren mountains, cities, and rivers. Estimating the total area of leaf surface at 50 per cent of the area of plant-bearing land, it follows that 24,700,000 square miles, or 63,973,000,000,000 square meters of leaf surface are engaged in the work of removing carbonic acid. Since each square metre of leaf-surface decomposes about 1 liter of carbonic acid per hour, it follows that 63,973,000,000,000 liters of the gas are decomposed every hour. Taking into account the fact that sun-light, on the average, lasts only ten hours per day, and allowing 25 per cent for diminution of the action during winter, the average amount of carbonic acid decomposed per day is 479,000,000,000 kiloliters, or more than 900,000,000,000 kilos. A considerable portion of the carbon thus removed is, however, returned to the air when the leaves decompose in the autumn; and allowance must also be made for the fact that some plants give off carbonic acid in the dark. On this point, however, there are no data on which to base any calculation, and the evolution of carbonic acid by the nocturnal respiration of plants may be much greater than is usually supposed. From the numbers given it would appear that the vegetable life of the globe is of itself sufficient to maintain the purity of the atmosphere. The removal of carbonic acid from sea-water by low forms of animal life takes place on a gigantic scale, but the carbonic acid thus removed exists in the sea and not in the atmosphere, and a very large proportion of it must be derived from submarine volcanic eruptions. In all probability the influence of this action is felt only after many years, and so far as the atmosphere is concerned, it cannot be compared to plant life in point of activity. Large quantities of carbonic acid are removed by inorganic chemical changes, as, for example, in the conversion of orthoclase into kaolin—Sterry Hunt, *Amer. Journ. Sc.*, May 1880—but any estimate of the rate of this action is impossible. These calculations seem to show that the causes which remove carbonic acid from air are more powerful than those which add the gas to the air. Its proportion must, therefore, be gradually decreasing, but there are no trustworthy data on which to base any calculations of this point. As to the source of the enormous quantities of carbonic acid already fixed in the form of limestone, we have no knowledge. Either at one time the atmosphere surrounding the earth must have been much richer in carbonic acid than it is at present, or, as Sterry Hunt supposes, there must be a universal atmosphere similar to our own, from which the carbonic acid now fixed in the earth's crust has been derived.—*Scient. Am. Suppl.*

The Use of Hydrogen Peroxide in Chemical Analysis.

NOTWITHSTANDING that hydrogen peroxide has been known for a long time, and is daily used for a number of technical purposes, its employment in chemical analysis has hitherto remained in abeyance. This has probably been due to the loss of time involved in preparing it pure in the laboratory, and the impurity of its solutions hitherto brought into the market. Carl Roth & Co., of Berlin, now prepare solutions of hydrogen peroxide in a state pure enough for analytical purposes, and the authors of this paper, Alex. Classen and O. Bauer, have employed it with success in several analytical determinations. Hydrogen peroxide converts ammonium sulphide to sulphate, and, what is the same thing, its solutions made alkaline with ammonia oxidize sulphuretted hydrogen. A number of metallic sulphides are very readily oxidized by an alkaline ammoniacal solution of hydrogen peroxide without any intermediate precipitation. This is the case with the sulphides of arsenic, copper, zinc, and thallium. In the case of this sulphide, the oxide of the metal is precipitated, while the whole of the sulphur is oxidized to sulphuric acid. Mercury sulphide, which is hardly attacked by nitric acid, is very readily oxidized by hydrogen peroxide. A solution of cadmium sulphide forms a yellowish-white precipitate soluble in hydrochloric acid. Several metallic sulphides, the solutions of which are precipitated by ammonia, are decomposed by hydrogen peroxide into sulphuric acid, and a hydroxide of the base, which precipitates, for instance, iron sulphide. The authors believe that hydrogen peroxide will soon be generally employed in analytical operations, as a clean, handy, and energetic oxidizing agent. Amongst other determinations which yielded good results may be mentioned the determination, in the presence of sulphuretted hydrogen, of hydrochloric, hydriodic, and hydrobromic acids.—*Ber. d. Deutsch. Chem. Ges.*—*Chem. and Drugg.*

Restoring the Finish of Leather.

LEATHER may be restored in color, if not too far gone by a slight application of oil. If this is not effectual, put on blacking, let it dry, brush it off, and go over it again very lightly with oil. If very brown, black thoroughly and oil it afterwards, giving it a final dressing of dissolved gum tragacanth.—*Furniture Gazette.*

Preparation of Cinchona Alkaloids for Elixirs.*

In following the directions for making elixirs by this work, it will be observed that we refer to alkaloid cinchonine, and alkaloid quinine, as well as alkaloid cinchonine. The last is in general use, but the other must often be prepared extemporaneously. In reviewing the processes which have been heretofore recommended, we find considerable trouble in manipulation. The plan of our Pharmacopœia (1870) is that of dissolving the sulphate of the alkaloid in water by means of sulphuric acid, and then precipitating with ammonia water, after which the precipitated alkaloid is washed with water. In following this process we find a very bulky precipitate, and which requires a large amount of water before it can be thoroughly freed from ammonium sulphate. Again, when we attempt to dry this precipitate, if the weather is moderately warm, it runs together, agglutinates, and finally forms a transparent, horn-like mass, which adheres closely to the paper. In order to overcome these troubles, the writer has devised the following process, which yields an alkaloid which answers every purpose required by the class of preparations under consideration:

Alkaloid quinine or alkaloid cinchonidine.

Sulphate of quinine or sulphate of cinchonidine	1 oz.
Distilled water	32 fl. oz.
Ammonia water	½ "

Mix the ammonia water with the distilled water, and having placed the sulphate of the desired alkaloid in a mortar, gradually triturate it with a sufficient amount of the liquid so as to form a thin, creamy mixture; then add the remainder of the mixed waters. Permit this to stand half an hour, and transfer to a filter paper; then after the precipitate has drained, return it to the mortar, and mix it again with a liquid composed of—

Distilled water	32 fl. oz.
Ammonia water	¼ "

Permit this mixture to stand for half an hour, and then transfer it to a muslin strainer, squeeze it until the liquor is expressed, and then dry it by hanging it in the atmosphere, without, however, removing the strainer.

The foregoing process offers several advantages over the old, not the least being the ready production of an alkaloid in a porous and finely divided form. If the strainer is permitted to remain during the process of drying, the liquid carries the dissolved sulphate of ammonium to the surface, as it evaporates, and deposits it upon the muslin.†

Platinic Iodide as a Test-Reagent for deleterious Organic Substances in Potable Waters.

BY ALBERT R. LEEDS.

In the *Chem. News*, 43, p. 180, M. Field has proposed to employ the reaction of certain organic substances upon a very dilute solution of platinum iodide in solution of iodide of potassium, and by their effect in the removal of the rose-color of this solution to determine the fact of their presence in greater or less amount. Although the author proposes to employ the test only or chiefly to establish the fact of the freedom of the water under examination from sewage contamination and from albuminous matter, yet the establishment of this fact alone is of the highest importance. The introduction of specific tests for the various kinds of organic matter, fresh or partly decomposed, which might possibly be present in potable water, would mark an advance in the practice of water analysis, and any proposition looking in this direction merits careful study. After verifying Field's statements as to the decolorizing effect of certain of the most important organic substances upon platinum iodide solution, I compared the results arrived at by the use of platinum iodide and those obtained by the customary methods of water analysis. Moreover, regarding it probable that the platinum salt would undergo reduction in presence of organic matter when exposed to sun-light, I exposed the tests in a duplicate series of determinations to the action of sun-light, and found my anticipation confirmed.

The experiments were made upon a series of samples, the other constituents in which had been determined with exceeding care. In the first series a test solution was made of the same strength as that employed by Field, or one part of platinic chloride in 500,000 parts of a very dilute solution of potassium iodide; 50 *cc.* of this solution was added to 100 *cc.* of the natural water under examination, and allowed to stand in diffused light for 24 hours. In the second series, 1 part of platinic iodide was dissolved in 200,000 parts of a dilute solution of potassium iodide, and 100 *cc.* of this solution added to 100 *cc.* of the samples of water, and the solutions exposed in wide comparison-tubes for 48 hours to the sun-light. The results were as follows:

		In diffused light.	*In sun-light.*
Sample No.	227*	Very faint pink.	Light rose.
" "	230	Pink just visible.	Pink.
" "	231	No color.	Smoky pink.
" "	234	Decided pink.	Rose.
" "	235	Faint pink	Rose.
" "	228		Dark rose.
" "	232		Faint pink with deposit of platinum.
" "	233		Smoky pink.

In will be noted that, in the second series, samples 231, 233, and 232 were so far reduced that a grayish deposit of platinum was formed on the walls of the tubes. In the last, this deposit was tested first with concentrated nitric acid, in which it would not dissolve, and afterwards with aqua regia, in which, after heating, it dissolved to a deeply colored yellow solution.

Since the 100 *cc.* of platinic iodide solution was nearly decolorized, the amount of metallic platinum precipitates amounted to nearly 5 mgrms. In other words, in badly polluted waters the reduction of the platinum salt in sunlight might be employed as a means for estimating the relative amounts of those organic bodies which are capable of effecting such a reduction in sun-light. It was noted, however, that 100 *cc.* of a solution of 1 part of platinum iodide in 500,000 parts of a very dilute solution of potassium iodide in *distilled* water became perceptibly lighter in tint when exposed along with the others for the same period of 48 hours.

Inasmuch as the solutions were somewhat warmed by the sun-light, and heat has some effect in the removal of the color, this disturbing element would have to be guarded against.

Since this time, an actinic method of determining the putrescible organic matter in potable waters has been regularly employed, and proven so satisfactorily, that further experiments with platinic iodide in this direction have been abandoned. But the new ground broken by Field in the domain of water analysis deserves to be sedulously cultivated, and the search for specific tests for particular contaminating substances should be carefully followed up.—*Journ. Am. Chem. Soc*, v., 74.

Clarifying Alcoholic Liquids.

R. Jacobsen, of Berlin, has taken out a patent on a process of clarifying wine, beer, and any other alcoholic liquid by means of unsized paper, cellulose, etc., previously saturated with white of egg, isinglass, gelatin, etc. A definite size of the prepared paper will usually correspond to a given volume of the liquid to be clarified.

* From Prof. J. U. Lloyd's new work on Elixirs.

† This process is often followed by the writer with regard to other precipitates which contain coloring matters and impurities that ordinary washing seems not to separate. By spreading them in thin layers upon muslin, and pressing a sheet of muslin upon their surface, the impurities are carried by the liquid to the surface.

* These laboratory numbers refer to a series of samples taken from the Schuylkill river in the month of January, 1883, when the water supply of Philadelphia became so nauseous that I was requested by the water department of that city to investigate the causes of its temporary non-potability.

A Distinctive Test for Gallic Acid.

BY SIDNEY YOUNG, D.SC.

WHEN an aqueous solution of gallic acid is treated with a solution of potassium cyanide, a beautiful red coloration is produced, which, however, disappears after a short time if the liquid is not disturbed. The surface, however, remains colored, and on tapping the test tube in which the solution is contained, the superficial colored portion is driven downwards into the colorless liquid below. If now the test tube is shaken energetically, the color reappears as at first, but, on standing, the liquid again becomes colorless. This alternate production and disappearance of the beautiful and characteristic red color may be repeated as many as fifteen or twenty times, the solution finally attaining a permanent brownish-yellow color. Pure tannic acid gives no coloration with potassium cyanide, but commercial tannic acid invariably contains a certain amount of gallic acid, and therefore the reaction is usually observed, though the color is only feeble.

A sample of tannic acid, which gave a rather deep coloration with potassium cyanide, was dissolved in water, and to the strong solution about one-third of its volume of ether was added, and the whole shaken vigorously. After standing, three layers were formed, as described by Guibourt (*Ann. Chem. Pharm.*, 48, 359). After evaporation of the upper ethereal layer, the light-yellow residue was dissolved in water and treated with potassium cyanide, when the deep-red color due to gallic acid was produced. The middle layer was found to contain a still larger quantity of gallic acid. A drop of the syrupy brown aqueous solution of tannic acid which formed the lowest layer, when diluted with water and treated with potassium cyanide, gave a much feebler coloration than the original tannic acid. This process of purification was repeated four times, the gallic acid reaction, both in the case of the upper ethereal layer and syrupy tannic acid solution, becoming weaker each time, until at least the cyanide produced no coloration whatever. It thus appears that tannic acid free from gallic acid is not colored by potassium cyanide, which reagent therefore affords by far the most convenient means of distinguishing between those two acids. Moreover, the presence of a very small quantity of gallic acid in tannic acid is indicated by this means.—*Chem. News*, July 20th, 1883.

Physical Characters of Nitro-Glycerin.*

IN view of the continued, and perhaps extended, use of nitro-glycerin in therapeutics, it may be desirable to add a few observations which I have made on its physical characters, more precise than those to be met with in previous publications.

Nitro-glycerin is perfectly colorless, and not of a clear yellow color, as is stated in most of the papers on the chemistry of this body. The color is due to the imperfect removal of the acid, or to the use of soda, which is commonly used for washing it, and which decomposes it with the production of a reddish-brown color. It has no odor when cold, but has a sharp pungent odor when heated. Its taste is sweet, and not unlike that of glycerin, but is more pungent. As regards its solubility:—1 gram dissolves in about 800 cubic centimeters of water; with difficulty in 3 *cc.* of absolute alcohol, easily in 4 *cc.*; in 10.5 *cc.* of rectified spirit (sp. gr. 0.846); in 1 *cc.* of methylic alcohol (sp. gr. 0.814); in 4 *cc.* of methylated spirit (sp. gr. 0.830); in 18 *cc.* of amylic alcohol; in every proportion in ether; so also in chloroform, in glacial acetic acid, and in carbolic acid; in less than 1 *cc.* of benzol; in 120 *cc.* of carbon bisulphide; and to a very limited extent, if at all, in glycerin. Its solutions in water and alcohol I have kept for nearly four months without their exhibiting the slightest evidence of decomposition; and I have no reason for believing that they will not remain undecomposed for a much longer time.—M. Hay, *Pharm. Jour. and Trans.*

* Extracts from a paper on the "Chemical Nature and Physiological Action of Nitro-Glycerin" in the *Practitioner* for June.

ASSOCIATION REPORTS.

National Retail Druggists' Association.

ABOUT one hundred retail druggists met in Washington, D. C., on the 10th of September and organized an association with the above title. Its constitution provides that "any retail druggist in the United States, in business on his own account, shall be eligible to membership." "Any member ceasing to be engaged in business as a retail druggist on his own account, shall forfeit his membership." The following officers were elected: *President*, Henry Canning, Boston; *Vice-Presidents*, 1st, N. H. Jennings, Baltimore; 2d, T. R. Baker, Richmond; 3d, J. B. Bond, Little Rock; *Secretary*, J. W. Colcord, Lynn; *Treasurer*, J. Wells, Cincinnati. An Executive Committee was also chosen, consisting of E. A. Sayre, Brooklyn; L. E. Sayre, Philadelphia; S. A. D. Sheppard and W. W. Bartlet, Boston; C. Becker, Washington; J. F. Moore, Baltimore; A. G. Vogler, Chicago; L. C. Hopp, Cleveland; F. W. Sennewald, St. Louis; R. K. Finlay, New Orleans; J. W. Eckford, Aberdeen, Miss.; F. H. Masi, Norfolk; J. C. Munds, Wilmington, N. C.; A. P. Brown, Camden; J. F. Patten, York, Pa.

Application for membership, accompanied with the annual due ($1.00), must be forwarded to the Chairman of the Executive Committee, who will make a monthly statement of applications to the other members of the committee, and, with the approval of two-thirds, will forward the names of elected candidates, together with the dues, to the Secretary of the association.

There was a prolonged discussion upon the expediency of effecting a permanent organization; upon the merits of various plans for preventing the cutting of prices on proprietary articles, as well as upon the nature of the goods which should be included in any scheme of rebate which might be adopted. These matters were finally left, in a great degree, to the discretion of the Executive Committee, the association adopting the following resolutions for their guidance:

"*Resolved*, That the plan known as the retail rebate plan, in the objects and main protective features, receives the hearty indorsement of this Association; and that said plan be referred to the Executive Committee for such modification and alteration as may be deemed proper or expedient, and with plenary powers to act for this Association in the presentation of said plan, as modified, to a successful issue.

"*Resolved*, That the proceedings of this Association be printed, with such a circular as the committee deems wise, and that they be sent to every retail apothecary in the country.

"*Resolved*, That a committee be appointed to receive complaints from members regarding jobbers and manufacturers who sell to consumers direct at wholesale prices, ignoring the retail trade; and that lists of houses so doing be published for the benefit of members of the Association. (Referred to the Executive Committee.)

"*Resolved*, That a committee of three be appointed to act in co-operation with the committees from other associations, to urge upon Congress the repeal or modification of the tax on alcohol when used exclusively for mechanical or medicinal use."

Messrs. W. S. Thompson, of Washington, Alonzo Robbins, of Philadelphia, and T. R. Baker, of Richmond, were so appointed by the Chair.

The Association adjourned to meet at the call of the President.

American Pharmaceutical Association.

THE thirty-first annual meeting of the American Pharmaceutical Association was held at Washington, D. C., during Tuesday, Wednesday, and Thursday, the 11th, 12th, and 13th of September; about two hundred and sixty-six members being registered as present, besides a consid-

erable local attendance. The lecture hall connected with the Smithsonian Institution was used as the place for meeting. Through the kind co-operation of Professor Baird, of the Institution, the labors of Mr. Charles Becker, the local Secretary, together with the efforts of the Entertainment Committee, the arrangements for the meeting were very complete and satisfactory. General West, the Commissioner of Washington, welcomed the Association to the Capitol, and was followed by the President, Chas. A. Heinitsh, in an address which was chiefly retrospective. In closing, he recommended a national pharmaceutical act, and referred to the custom of the government in selling at auction condemned drugs belonging to government stores as inconsistent with its inspection of imported drugs.

REPORTS OF COMMITTEES.

The Committee on Publication reported the total cost of 1,600 copies of the transactions for 1882 to have been $3,861.10. (This includes the salaries of the Reporter on the Progress of Pharmacy and the Secretary, amounting to $1,000, and the phonographic report of proceedings, $100.)

The Committee on Legislation reported the repeal of a Pennsylvania law existing since April 10th, 1849, which imposed a special, annual tax upon the manufacturing and selling of patent medicines, and also the repeal of the pharmacy law of California, passed in 1876. The committee also mentioned the second failure to enact pharmacy laws during the past sessions of the Legislatures of Massachusetts, New York, and Pennsylvania. New laws were reported in Delaware and West Virginia. The committee submitted a draft for a proposed law relating to apothecaries of the army and navy which would, by its enactment, give them the respective ranks of a Second Lieutenant of Infantry, and an Ensign, without the right of promotion, and conditional upon their passing an examination upon elementary chemistry, materia medica, pharmacy, and botany before a board composed of three medical officers belonging to the respective services.

Dr. Menninger, of Brooklyn, explained the advantage which would accrue to the profession from the elevation of the apothecaries of the army and navy to commissioned or warrant rank, and urged the members to make personal efforts to secure the passage of the bill.

Mr. Ebert, of Chicago, explained the failure to secure enactment of pharmacy laws in some States on the ground of opposition to a law which recognizes the diploma of a medical or pharmaceutical college as the equivalent of a satisfactory examination by a board of pharmaceutical examiners, in obtaining a license to engage in pharmaceutical business.

The Treasurer, Chas. A. Tufts, submitted his report for the past year, which showed the Association to be in an excellent financial condition, all bills being paid and about $7,000 remaining in the treasury.

The Committee on Membership reported the condition of the Association, and stated that the membership was large and still increasing. The distribution of membership throughout the United States and Canada is as follows: Alabama, 7; Arkansas, 4; California, 23; Colorado, 7; District of Columbia, 22; Connecticut, 29; Delaware, 2; Florida, 4; Georgia, 18; Illinois, 63; Indiana, 46; Iowa, 26; Kansas, 14; Kentucky, 36; Louisiana, 11; Maine, 20; Maryland, 41; Massachusetts, 129; Michigan, 24; Minnesota, 6; Mississippi, 6; Missouri, 62; Nebraska, 2; Nevada, 1; New Hampshire, 25; New Jersey, 63; New York, 279; North Carolina, 16; Ohio, 124; Oregon, 1; Pennsylvania, 158; Rhode Island, 14; South Carolina, 9; Tennessee, 8; Texas, 9; Vermont, 9; Virginia, 9; Wyoming Territory, 2; West Virginia, 9; Wisconsin, 20: Canada, 22; Bermuda, 1; United States of Colombia, 1: in Europe, 4.

The Committee on Prize Essays reported that the "Ebert Prize" had been awarded to J. U. Lloyd, of Cincinnati.

A special committee, appointed to consider the advisability of holding a convention in California some time within three years, reported, through Mr. T. R. Baker, of Richmond, that after a careful consideration of the question, they decided that it would not be advisable to meet there within that time. The committee was dismissed. A new committee, to contain two members from the Pacific coast, was ordered to be appointed.

A communication was received from William Carson, Vice-President of the Drug Association of New Orleans, asking that the association meet in that city in 1885.

The reports of the committees on the Western Wholesale Druggists' Association and on the drug market were received and approved.

Mr. George J. Seabury, of the entertainment committee, then made his report. He recommended the association to appoint an entainment committee each year to attend to the pleasure and comfort of the delegates. This report was accepted and referred to the committee on recommendations and reports, and the committee was discharged. A misunderstanding arose as to the position of the committee and the disposition of such funds as might be in their hands. A long discussion arose, and some ill-feeling was created. The motion discharging the committee was finally reconsidered and laid upon the table.

The committee on the President's address presented the following resolutions:

I. That the committee on membership be appointed by the council.

II. The passage by Congress of a national pharmacy act to make a more uniform code of laws for all States, and that this matter be referred to the committee on legislation, with power to memorialize Congress, if deemed expedient.

III. That another effort be made to elevate the status of apothecaries in the army and navy. This, also, was recommended to the attention of the committee on legislation.

IV. The sending of delegates to the International Congress of 1884, to be held in Brussels, and that the council be empowered to nominate such delegation.

V. Protesting against the sale by the government of drugs and medicines that have been condemned by official drug examiners, and recommending that the council take such action as may secure a reform in this respect.

VI. That the committee of arrangements and entertainment be appointed by the council, who shall supervise and ratify the final arrangements.

The first was laid upon the table, and the sixth was amended so as to authorize the council to accept or reject, in the name of the Association, any name that may be tendered them at the place of meeting, and to accept or reject any invitation.

Thus amended, the report was adopted.

The President stated that the Association was largely indebted to Prof. Baird, of the Smithsonian Institution, for the accommodations afforded for a place of meeting; and called attention to the remarkable collection of specimens of materia medica in the National Museum. Prof. Baird is anxious to interest the Association in the development and preservation of this collection, and is willing to assume the care of any specimens that the Association might contribute, and distinguish them as coming from the Association; or he would give the entire collection to the Association, if it would assume charge of it and use its influence to perfect it. The President offered the following resolution, viz.:

That the National Museum is hereby declared to be the repository of the American Pharmaceutical Association, and that all materia-medica specimens coming into the possession of this Association shall be deposited in said museum, to be designated as the collection of the American Pharmaceutical Association. That our members are recommended to contribute towards the completion of the collection.

An amendment, suggested by Prof. Remington, to the effect that a special committee should be appointed to receive and turn over to the museum any donations that might be offered, was accepted, and the resolution, thus amended, was adopted.

The committee on exhibition reported that fifty ex-

hibitors were represented—probably the largest display made at any of the exhibitions connected with the Association—and the committee were allowed time for making a detailed report for publication.

Prof. C. L. Diehl, reporter on the progress of pharmacy, made a preliminary statement explaining the features of the extended report.

Mr. Colcord, of Lynn, Mass., offered a resolution in favor of petitioning Congress to appropriate twenty-five thousand dollars to be expended by the United States Department of Agriculture for experiments in the cultivation of medicinal plants. Mr. Colcord commended the object as a worthy one, and spoke of the value to the country of such experimentation, should it result in the acclimation of a single standard medicinal plant. The success of the English government with cinchona in India was cited.

A member called attention to the fact that the Department of Agriculture had had the matter in charge for some years, and had made a few experiments; but that the results obtained, if any, had not been followed up with any earnestness. He deprecated giving the department so much money, except upon evidence that it would be wisely used.

On motion of Mr. Menninger, of Brooklyn, N. Y., Mr. Colcord's resolution was referred to the council.

A motion to censure the proprietors of patent medicines who have not lowered the price of their preparations, notwithstanding the abolition of the stamp-tax, was laid upon the table.

The President was directed to appoint a committee of five members to attend the next meeting of the National Wholesale Drug Association, to be held in New York in October.

OFFICERS AND COMMITTEES.

The officers and committees chosen were as follows: *President*, W. S. Thompson, of Washington, D. C.; *Vice-Presidents*, I. Dr. Charles Rice, of New York; II. F. H. Masi, of Norfolk, Va.; III. E. W. Runyon, of San Francisco; *Treasurer*, Charles A. Tufts, of Dover, N. H.; *Secretary*, J. M. Maisch, of Philadelphia; *Reporter on the Progress of Pharmacy*, C. Lewis Diehl, of Louisville.

Members of Council. A. E. Ebert, of Chicago; J. P. Remington, of Philadelphia; Geo. W. Kennedy, of Pottsville, Pa., and Dr. H. J. Menninger, of Brooklyn. *Committee on Drug Market:* W. A. Gellatly, of New York (chairman); E. W. Cutler, of Boston; M. N. Kline, of Philadelphia; D. Myers, of Cleveland; W. Simpson, of Raleigh, N. C. *Com. on Papers and Queries:* J. U. Lloyd, of Cincinnati (chairman); G. W. Sloan, of Indianapolis; W. W. Bartlett, of Boston. *Com. on Prize Essays:* C. L. Diehl, of Louisville (chairman); A. W. Miller, of Philadelphia; Emil Scheffer, of Louisville. *Com. on Legislation:* J. M. Maisch, of Philadelphia (chairman); S. A. D. Sheppard, of Boston; E. Bocking, of Wheeling, W. Va. *Com. on Materia Medica Collection:* J. A. Milburn, of Washington; H. B. Parsons, of New York; and J. Roberts, of Baltimore. *Com. on Unofficinal Formulas:* J. W. Colcord, of Lynn, Mass. (chairman); J. T. Shinn, of Philadelphia; Chas. Becker, of Washington; A. G. Vogeler, of Chicago; M. W. Alexander, of St. Louis; Emlen Painter, of San Francisco; and C. L. Keppler, of New Orleans. *Delegates to the Wholesale Drug Association* (not yet appointed). *Local Secretary*, John R. Drake, of Milwaukee, Wis.

PAPERS.

During the sessions, the following papers were presented and discussed:

"The Purity of Commercial Iodide of Potassium," by Prof. A. B. Prescott, of Ann Arbor, Mich.

"Oil of Birch," by G. W. Kennedy, of Pottsville, Pa.

"Analysis of Coated Quinine Pills," by Virgil Coblentz, of Springfield, Ohio.

"Specific Volumes," by Prof. Oscar Oldberg, of St. Louis.

"Precipitates in Fluid Extracts," by Prof. J. U. Lloyd, of Cincinnati.

"Production of Bromine in the United States," by W. J. M. Gordon, of Cincinnati.

"Adulteration of Sulphate of Cinchonidine," by Geo. W. Kennedy, of Pottsville, Pa.

"Stathmetometric Methods of Assay," by W. W. Bartlett, of Boston, Mass., and another paper upon the same topic by Alfred B. Taylor, of Philadelphia.

"Manufacture of Whiskey," by C. K. Gallagher, of Washington, D. C.

"An Improved Process for the Manufacture of Fluid Extracts on the Large Scale," by W. M. Thomson, of Philadelphia.

"Purity of Snow Water," by G. W. Sloan, of Indianapolis.

"Commercial Citrate of Caffeine," by Prof. C. Gilbert Wheeler, of Chicago.

"Petrolatum in Officinal Oinments," by Prof. J. P. Remington, of Philadelphia.

"Responsibility for Adulteration," by R. H. Cowdrey, of Chicago.

"Laboratory Notes," by W. M. Thomson, of Philadelphia.

"Extract of Malt," by Prof. J. U. Lloyd, of Cincinnati.

"Caffeine in Guarana," by J. H. Feemster, of Cincinnati.

"Miscellaneous Notes," by J. W. Colcord, of Lynn., Mass.

"Composition of Boletus Laricis," by C. W. Phillips, of Cincinnati.

For want of space, the publication of some of these papers and the discussions are deferred until our next issue.

Aluminium-coated Iron.

DR. GEHRING, of Landshut, has invented a process by which ordinary iron may rendered highly ornamental. The invention—of which, however, we have heard very little lately—of obtaining aluminium very cheaply led Dr. Gehring to coat iron with aluminium, in the same way as iron-plates are now tinned and converted into tin-plates.

The inventor states that his process is inexpensive. He uses a Bunsen burner, with a blast or a muffle, and is thus able to manufacture various objects of the durable metal for daily use, the coating of aluminium giving them a silver-white luster. He also produces a gold-luster, or any other color, and even an enamel coating, all of which substances are said to adhere very firmly to aluminium. Aluminium, like tin, does not oxidize under normal conditions, and even stands the heat of an ordinary fire, while it is much more lustrous than tin.—*Scient. Am.*

Petrolatum mistaken for Dynamite.

AT Rio de Janeiro, the custom-house officials have seized and confiscated as *dynamite* (!) a large shipment of petrolatum, or petroleum ointment, recently consigned to the agent of the Pennsylvania Oil Company at that place. The agent was compelled to pay a heavy fine, although he protested that the goods were not explosive. He appealed to the Custom-house Inspector, and offered to prove that the article was purely a medicinal preparation, but the inspector declined to return the goods. The agent has been instructed to appeal to the emperor for redress.

[Why not also to the State Department at Washington, which is in a position to inform the Brazilian Government, in an official manner, what the "Petrolatum" of the United States Pharmacopœia of 1880 actually is?]

Rate of Digestion in Stomach.

ACCORDING to A. Kietz, during the first hour of digestion, lactic acid is not present in notable quantities, but the acid present is hydrochloric; the appearance, sooner or later, of free acid is dependent on the quantity and quality of the food, as well as on the idiosyncrasy of the individual.—*Bied. Centr.*, 1883, 208.

NOTES, QUERIES AND ANSWERS.

Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us, as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

When asking for the formula of an unusual, patented, or proprietary compound, always accompany the query with any information you may already possess regarding the locality in which it is used, its use and reputed effects, in order to enable us to make inquiry without waste of time and labor. When it can conveniently be done, send also a specimen of the label used on packages of the compound.

Copper Fountains for Carbonated Beverages.

To the Editor of New Remedies:

Dear Sir:—In your August issue, you publish a letter credited to the *Philadelphia Medical Times*, in which the author states that on analyzing some soda-water drawn from a dispensing apparatus in Pittsburg, he found it to be "dangerously impregnated with copper." Unfortunately, this case is by no means an exceptional one. I had occasion during many years to observe how prevalent for a long time was the use of tin-washed copper fountains and of metal syrup-tanks and faucets. The trade gradually awoke to the danger of copper poisoning from these sources, and an enterprising manufacturer introduced sheet block-tin linings for the fountains and glass tanks for the syrups, entirely discarding all syrup faucets whatever. This was a long stride in the right direction, and these improvements immediately went into general use. The correspondent of the *Philadelphia Medical Times* is much mistaken when he says that the fountains are in all cases made of copper washed with tin, for the block-tin lined cast-iron fountain, and especially the block-tin-lined steel fountain, have in a great measure superseded the tin-washed copper fountains. Surprising as it may appear, however, tin-washed copper fountains are extensively used, not only in remote country towns, but also in large cities like New York, Philadelphia, Chicago, Cincinnati, and even Boston, the reputed centre of science and culture.

I am glad to see this subject taken up by the press, and should like to see it thoroughly ventilated. I do not think that manufacturers of good apparatus have anything to lose by the exposure of worthless and dangerous ones. On the contrary, they have been the first to attack the tin-washed copper fountains and the metal syrup tank and faucet, and it is as much their interest as that of the public to have these dangerous appliances completely done away with. But be this as it may, it should be a matter of indifference to independent journals, like yours, whose toes are trod on when the public weal is at stake. Every one of these slow poison devices sold, works incalculable injury to the entire trade, as well as to the ignorant or reckless purchaser of it.

If the druggist who purchases such an apparatus injured himself alone by neglecting to exercise the same care in this branch of his busines as he does in the others, that would be his own affair. But his loss can be reckoned in dollars and cents, whereas the injury done to the helpless children and delicate women who partake of his poisoned cup is often immeasurable.

I have no doubt the tin-washed copper fountain and the metal syrup tank will sooner or later disappear completely, and become extinct species, but until they do, it would be well that the dispenser should be taught to discriminate between a good and dangerous apparatus, and that the public should learn where they can get pure and wholesome beverages.

It is a question in my mind whether the local Boards of Health should not give this matter their serious consideration. Yours truly,

Observer.

Salicylate of Bismuth.

Editor New Remedies:

Dear Sir:—In the September number of your journal, page 280, query number 1,150, you advise to prepare salicylate of bismuth by double decomposition of salicylate of sodium and subnitrate of bismuth dissolved in nitric acid. Permit me to suggest that it is much easier to conduct the operation by dissolving subcarbonate of bismuth in dilute hydrochloric acid. Of course, the product of the solution is chloride of bismuth, free carbonic acid being evolved. It may be diluted with water, to any extent. Upon the addition of salicylate of sodium, the insoluble salicylate of bismuth and the soluble chloride of sodium result. Except for economy, proportion need not be considered. Should an excess of hydrochloric acid be used, free salicylic acid will also be precipitated, but the latter may be readily removed with boiling water, in which it is freely soluble. Heat greatly accelerates the solution of the subcarbonate in the first solution. Yours very truly,

Holly, Mich. D. W. C. Wade, M.D.

Compound Syrup of Wild Cherry.

To Editor New Remedies:

Noticing of late several inquiries for a comp. syr. wild cherry, I inclose the following, which is always dispensed in the vicinity of Charleston when comp. syr. wild cherry is ordered:

℞	Morph. acet.	gr. iij.
	Tr. sanguin.	ʒ ij.
	Vini antimon	ʒ iij.
	Syr. pruni virg	iij.
	Vini ipecac.	ʒ iij.

M.

Some druggists filter the resulting compound; others prefer to dispense it unfiltered. Respectfully,

Summerville, S. C. G. A. Otgen.

"Green's August Flowers and Hostetter's Bitters."

Editor of New Remedies:

Dear Sir:—In the May number, I noticed that correspondents asked for formulæ for Green's August Flowers and Hostetter's Bitters. I have the same in my possession, copied from some publication, but cannot say where I got it. The following are the formulæ:

Green's August Flowers.

℞	Rhubarb	360 grs.
	Golden seal	90 "
	Cape aloes	16 "
	Peppermint leaves	120 "
	Capsicum	5 "
	Sugar	½ lb.
	Alcohol	3 "
	Water	10 "

Mix the water and alcohol, and macerate the drugs in this; filter, and add sufficient dilute alcohol to make a pint; then dissolve the sugar.

Formula for Hostetter's Bitters.

	Calamus root	2 lbs.
	Orange peel	2 "
	Peruvian bark	2 "
	Gentian root	2 "
	Colombo root	2 "
	Rhubarb	8 "
	Cinnamon	4 "
	Cloves	2 "
	Dituted alcohol	4 gals.
	Water, pure	2 "
	Sugar	2 lbs.

With best wishes for the success of the N. R., I am, as ever, yours respectfully, C. M. SHOFER, PH.G.
CANAL FULTON, OHIO.

Treatment of Burns.

MESSRS. EDITORS NEW REMEDIES:

GENTLEMEN:—Quite often I see formulas for the treatment of "*burns*." As I have been burned all over my body, excepting the soles of my feet, upon which I stood while being burned, so severely that twelve physicians said I could not live, you will see why I am so interested in such formulas. Please say from me that the free use of *soft soap* upon a fresh burn will remove the fire from the flesh *in less time than it takes to write these words*. If the burn be severe, after relief from the pain, use linseed oil, and then sift upon it wheat flour. When this is dried hard, repeat the oil and flour until a complete covering is obtained. Let this dry until it falls off, and a new skin will be formed without a scar. *This treatment leaves nothing more to be desired.* Respectfully, DANIEL BRUCE, JR.
PROVIDENCE, R. I., September 1st, 1883.

Prescriber vs. Dispenser.

EDITORS NEW REMEDIES:

DEAR SIRS:—If the following account is not too tedious, I should like your opinion, in the NEW REMEDIES, of the following misunderstanding between M.D. and pharmacist.

I dispensed the following *verbatim*:

"℞ Chlorine mixture..... ℥ ij.
S. 5 to 8 drops every hour as directed."

I knew it was for a young child with scarlet fever, and put it up according to Tweedie's formula in Griffith's Formulary, as follows:

"℞ Chlorine water..... 1 fl. drachm.
Lemon syrup..... 4 fl. drachms.
Water..... 8 " "
Mix. In Scarlatina, dose ten to twenty drops every six or eight hours."

The chlorine water was made fresh, and the water saturated. (I had dispensed the same mixture several times previously, including the prescriptions of this physician; no fault had been found, and I had favorable reports as to its effect.) The next day the father appeared, quite excited, asking what I gave him on that prescription. "Doctor said I had put it up wrong, and that the day before the child had *scarlatina*, but to-day he has *scarlet fever* (! !)." I interviewed the doctor (a stormy one before the end), who averred and insisted that "the prescription was not put up as he prescribed or as he had ever used it before; therefore, there was an error made in dispensing it as I did; furthermore, if I did not think I could put up his prescriptions as he wrote, I might decline to put them up in future; that I ought to see the physician when I received an ℞ for *anything* the formula of which is not given in the *Dispensatory*." In reply to my statement that the ℞ was put up accurately according to the formula, and that the chlorine water was prepared fresh and the water saturated, he aired his knowledge of "medical chemistry" by saying that "*that chlorine mixture is much stronger than chlorine water could be made* (! !), and that the chlorine of physicians had very different properties from that of chemists (! !)." He could give me no information about the formula, did not know how it was made, but another druggist brought it from a neighboring town, and held it as a private formula. It was an easy matter for me to get some information from that source, and I think what he wanted was similar to the following (perhaps with the substitution of a little syrup):

℞ Potass. chlorat..... ℥ i.
Acid. hydrochloric.....gtt. x.
Aquæ..... ℥ iv.

The acid to be dropped upon the potass. chlorat., and water added after the reaction ceases.

This, or similar mixtures, has been used quite extensively, and I have dispensed it repeatedly during the past ten years, but did not think of any one claiming it as a *private* formula or of calling it "*chlorine mixture.*" Of course, the circumstance of my "putting up a prescription wrong" has started on the rounds of neighbors and friends of the patient, and the stories will reflect discredit upon my pharmaceutical ability, to say the least. The doctor refuses to abide by the decision of disinterested parties, and still claims that I did not put up the prescription as he wrote.

I have tried to give as short and plain statement as possible, and would like your opinion if I was justified, knowing the purposes for which it was to be used, in preparing it as I did? Would it not have been the proper thing for the physician to call upon me, and find out where the misunderstanding was, instead of making the broad statement that I had made a mistake? I should also be pleased to receive any other criticisms you may feel called upon to make. W.

[As this question is likely to elicit a variety of opinions, we solicit an expression of the views of our readers before replying to it ourselves.—ED. N. R.]

No. 1,161.—**Fosgate's Cordial** (Dr. S. I. S.).

A correspondent having asked for information respecting the composition of Fosgate's Cordial, we inquired of a physician who was likely to be acquainted with its history, and received, in part, the following answer, which will, no doubt, interest many of our readers:

"In answer to your note, of the 11th inst., I would say that the father of Dr. Blanchard Fosgate sold drugs here, sixty or seventy-six years ago, and, among them, the nostrum called 'Fosgate's Cordial,' it being understood to be his domestic substitute for 'Godfrey's Cordial.' It was understood to be composed of rhubarb, soda, laudanum, and cinnamon. Dr. Blanchard Fosgate inherited the nostrum, it being about the only valuable estate his father left. After the cholera of 1832–33, Dr. Blanchard Fosgate (his father being dead) added to the cordial, as understood, camphor and capsicum, and the further title of 'Cholera Preventive.' I heard that his brother William, a lawyer, claimed a share in the profits of the sale of the cordial, and was allowed one-third. Of the proportion of the ingredients I am ignorant, as it has been held as a secret nostrum."

No. 1,162.—**Test of Purity of Olive Oil** (S. & Co.).

A few months ago, we received an inquiry from a western correspondent regarding the source of a small article on "Testing Olive Oil," which appeared on page 54 of our volume for 1882. This article had been taken from the *Pharmaceutische Zeitung*, but the author and source had been omitted. As we desired to obtain authentic information on the method of testing there described, we applied to one of our friends in Italy, Mr. A. Janssen in Florence, whose reply has now been received. To make matters clear, we will repeat here the item which occasioned the correspondence:

"*Testing Olive Oil.* The Italian Government has ordered the custom house officers to use the following test for detecting cotton-seed oil in olive oil: Two *cc.* of pure nitric acid are to be mixed with five *cc.* of the oil. A piece of pure copper, in form of wire, is then introduced, and the whole stirred with a glass-rod. If any cotton-seed oil was present, the liquid becomes red in the course of half an hour." (NEW REM., 1882, p. 54.)

Our correspondent writes that this test had been published in Italian (political) newspapers, and had been communicated, as a news item, to the *Pharmaceutische Zeitung*. On applying to Prof. E. Becchi, chemist of the Italian custom house, we were informed that the above test had given no satisfaction. Not less than seventy different lots of oil had just previously been reported by the custom house inspectors as containing cotton-seed oil, all of which were found entirely free from this adulterant by the chemist. In consequence of this, he searched for and succeeded in finding another method which yielded reliable results. Our informant stated that this method had been officially communicated to our government. On making inquiries at the New York Custom House, how-

ever, it was ascertained that no communication regarding this subject had been received there.

The new test is as follows:

Five cubic centimeters of the olive oil are put into a test-tube, twenty-five cubic centimeters of alcohol of ninety-eight per cent are added, and then five cubic centimeters of the reagent, which latter is prepared by dissolving one gram of nitrate of silver in one hundred cubic centimeters of alcohol of ninety-eight per cent. After shaking the test-tube, it is put in a water-bath, and heated up to 84° C. (183.2° F.). If the sample contained any cotton-seed oil, the mixture will have assumed a darker color after half an hour. With a little experience, the proportion of cotton-seed oil may be approximately determined from the depth of the tint. This method depends on the property possessed by the glyceride of cotton-seed oil of reducing nitrate of silver.

No. 1,163.—**Kefir** (J. J.). Continuation of answer to query 1,081 in our May number, p. 155.

Mr. Edward Hirschsohn, Mag. Pharm., of Dorpat, has favored us with a sample of the ferment-mass which is used for the production of kefir. He also writes:

"The ferment used in the preparation of *kefir* consists, according to the researches of Kern (*Bulletin de la Société Impériale des Naturalistes de Moscou*. Année 1881, No. 3, p. 141) of a mixture of ferment-cells (*Saccharomycetes cerevisiæ*) and bacteria, which latter he recognizes as a new species (*Dispora caucasica*), owing to its peculiar formation of spores. According to various statements which have come to my knowledge, this mass has been known since ancient times, and is constantly regenerated in the preparation of fresh quantities of kefir. It is used for the manufacture of the latter in various cities in Russia, particularly in St. Petersburg. There are said to be various methods in use for preparing kefir by the agency of the above-described ferment. I will here only mention the method of procedure communicated to me by a person who has prepared a large amount of this beverage himself. According to my informant, the dry mass is softened in water, and, after the pieces have swelled, three to four times the volume of fresh milk poured on top. The mixture is left in a cool place for twenty-four or thirty-six hours, then the milk is poured off from the lumps of yeast at the bottom, mixed with twice its volume of fresh milk, and again set aside in a cool place for twelve to twenty-four hours. The resulting beverage must be thickish, without large lumps, and must possess an agreeable acidulous taste. The residuary yeast can again be covered with fresh portions of milk for the preparation of further quantities of kefir. It is said to be necessary frequently to wash the residuary yeast with pure water (warm water can also be used), and to dry it out completely from time to time."*

From an article in the *Pharm. Zeitschr. f. Russland* (No. 28, 1883) the following may find room here. When Kern made inquiries after the origin of the kefir-yeast, some inhabitants of the mountainous districts where kefir was prepared either did not know its origin or gave the somewhat mythical information that the lumps grew upon peculiar shrubs found below the region of snow.

The presence of yeast-cells in the lumps or granules of kefir seems to be explained by the fact that they sink to the bottom in fully fermented milk, but in fresh milk rise to the surface, where they remain during the process of fermentation.

Besides the crude method of preparing kefir in use by the mountain inhabitants (see our May number, p. 155), there is another, which is employed in cities, and which Podwissotzky describes as follows:

Three tablespoonfuls of dry kefir-lumps are soaked for three hours in lukewarm water, the softened mass transferred to a well-cleaned vessel, and four "glasses" [we presume "tumblers" are meant] of fresh milk poured on top. The vessel is covered with nettle-cloth [any sort of muslin will do, we suppose], shaken and set aside at a temperature of 55° to 59° F., the vessel being shaken up every three or four hours. After twenty-four hours, it is again well shaken, then three-fourths of the milk poured into a well-cleaned bottle which is set aside either at the same temperature, or better at 45° to 50° F. The first vessel containing the yeast-grains is again filled up with milk, and the process continued. After the lapse of twenty-four hours, the milk in the second bottle is converted into a weak ("one-day's") kefir, containing but little carbonic acid. The middling-strong ("two-days'"), and the strong ("three-days'"), kefir contain much more carbonic acid, and easily drive the cork out of the bottle; it is therefore advisable, in the latter case, not to fill the bottle completely. The weak kefir is thin-fluid, the stronger ones more viscid and foaming.

Another method is said to be used in the Crimea. Half a "glassful" of swelled kefir-grains are covered with one to one and a half glasses of *skimmed* milk, and strained after twenty-four hours. A fresh portion of milk is then poured on, the milk previously strained off mixed with two or three "glasses" of milk, poured into a clean bottle, corked, and set aside for twenty-four hours at 66° F.

According to Podwissotzky, a good product should be rather viscid, somewhat cream-like and foaming, and should resemble good, sour cream in odor. The taste should recall that of butter-milk. To retain the activity of the kefir-yeast, the latter should be washed every three to four days with water, until this runs off entirely colorless. Or better still, first with water, then with a weak solution of soda, next with the solution of any acid salt (as, for instance, bitartrate of potassium), and finally again with water. In this manner, the grains are freed from the caseous matter.

If it should happen, during the preparation of the kefir, that casein lumps separate, the yeast-grains must at once be taken out, carefully washed off, dried, and a new preparation started.

Only *fresh* milk must be taken, either boiled or unboiled, original or skimmed, without the slightest trace of acidity.

According to Podwissotzky, kefir made from skimmed milk is preferable in catarrhal conditions of the stomach and intestinal canal, and for children; that made from unskimmed milk, containing more peptone, has a higher dietetic value, being easily assimilated and nourishing.

We might add that in our opinion, a milk peptonized by pancreatin would seem to possess all the advantages ascribed to "kefir."

No. 1,164.—**Collodium Camphoratum** (E. D.).

There is no standard formula for such a preparation. Collodion being a solution of gun-cotton in ether and alcohol, can, of course, take up a large amount of camphor, as this is abundantly soluble in either of those liquids.

No. 1,165—**Worcestershire and Holford Sauce** (M. E. D.).

The exact composition of these is not known. There are several good imitations sold in the market, none of them, however, quite identical with the original. Of course, the method of preparing these is a secret of the manufacturer. A sauce which is *said* to yield a product resembling the original, is prepared as follows:

Mix 1½ gallons of white wine vinegar, 1 gallon walnut catsup, 1 gallon mushroom catsup, 1 gallon madeira, ½ gallon Canton soy, 2½ lbs. brown sugar, 19 oz. of salt, 3 oz. of capsicum, 1½ oz. each of pimento, coriander, and curry powder, ¾ oz. each of cloves, mace, and cinnamon, and 6½ drachms of asafœtida made into a tincture with 1 pint of brandy. Boil 2 lbs. of hog's liver for twelve hours in 1 gallon of water, adding water from time to time to keep up the volume. Then bruise and mix the liver thoroughly with the water and strain through a coarse sieve. Add this to the remainder.

Walnut catsup. A good formula is said to be the fol-

* We notice a recent Russian publication, by Val. Podwissotsky (jun.) on this subject [Kefir: brodilo i napitog iz korovyago moloka. Ego istoria, prigotovlenie, sostav, fisiologitsheskœ i terapevtistsheskœ znatshenie. Izd. 2e, Kiew, 1883.—Kefir: ferment and beverage from cow's milk. Its history, preparation, composition, physiological and therapeutical value. 2d ed. Kiew, 1883. Price 40 kopeks.]

lowing: One-half gallon of walnut juice (obtained by strong pressure, if necessary, after sprinkling the walnuts with a little dilute vinegar) is heated to boiling, the scum removed, and then mixed with 10 oz. of sardelles (with bones), 10 oz. of shallots, ½ oz. each of whole cloves, mace, and pepper, and ½ cloves of garlic. The mixture is boiled until the sardelles are disintegrated, strained, allowed to cool, and bottled.

Mushroom catsup may be made as follows: Eighteen quarts of canned mushrooms are cut, put into a stone jar, mixed with 10 oz. of salt, and set aside for three days, occasionally stirring with a wooden spoon. The jar is next placed for half an hour on a warm stove, the exuded juice then strained off through a coarse strainer, without pressing, and boiled for fifteen minutes. For each quart of juice, there is added ¼ oz. of whole allspice and pepper, 2 pieces of mace, ⅓ oz. each of ginger and cloves, and the mixture set aside to cool. When cold, it is strained and bottled.

No. 1,166.—**Hectograph Ink and Pads** (E. C. M.).

We have no objection in repeating how these are or may be made. At the same time we would again state that the manufacture and sale of the pads is protected by patent, and not public property.

Hectographic Mass. Break 1 lb. of best glue into small pieces, put them into a kettle or boiler and pour on just enough water to cover them. When perfectly soft, melt the glue on a water-bath, or by steam; then add from 4 to 5 lbs. of glycerin (less is required in summer; more in winter), and continue the heat, while stirring, until the excess of water has evaporated Pour the melted mass, through a strainer, into suitable trays, and, after all the air has risen in bubbles, remove the scum with strips of paper. Then cover the pad and let it stand until cold and firm. Any air-bubbles that rise in the interval may be removed by pricking with a pin.

Hectographic Ink. The best and most economical color for this purpose is methyl-violet (the brand known as IV., B). Dissolve 1 part of this in 8 parts of hot water, and add 1 part of glycerin. Digest at a gentle heat for one hour. Transfer to small vials. Before using any, shake gently so as to reincorporate any coloring matter that may have deposited.

Write your copy on well-calendered paper with a full pen, putting plenty of ink in each stroke. Do not touch the paper with your fingers or hands, as the moisture of these will soften the sizing enough to cause the ink to sink into the paper. The back of the paper should show no sign of any ink-marks. As soon as your copy is written, lay it on the pad and leave it there for four or five minutes. It is not necessary to wait until the copy is dry. Then print. As soon as all the copies are taken, wash the surface of the pad uniformly with a little hot water and a soft sponge, and as soon as the writing has disappeared, let cold water run over the pad. Finally set it on edge to drain. The pad must be washed uniformly all over, even if only a small space should be covered by writing. If this alone were to be washed out, it would make a depression in the surface.

Black aniline colors are not persistent enough, that is, they do not yield a sufficient number of copies from one impression to be serviceable.

No. 1,167.—**Silver-Plating** (B. F. B.).

For details regarding this, we shall have to refer to the work mentioned in the reply to query 1,169.

We will state, however, that copper, bronze, brass, iron, and rough steel may be silver-plated directly; polished iron and steel, tin and zinc must first be given a thin coating of copper. Or they may first be nickel-plated, then dipped in a copper solution, and finally silver-plated.

Silver-plating used to be, and is still, frequently performed by means of batteries. Since dynamo-electric machines, however, have come into use, particularly since the invention of the Gramme machine, the time required for plating has been greatly shortened, and the product much improved.

There are, however, methods for coating metallic and other articles with silver, without the use of a battery or galvanic machine. The silver may be thrown down from a solution of a silver salt by certain reducing substances, such as sugar of milk or glucose. Metallic articles must first be rendered absolutely clean, and if they will not take silver at once (such as articles of iron, etc.), they must first be dipped into a solution of copper. The plating liquids may be prepared thus:

a. Dissolve 5 parts of sugar of milk or of grape sugar, and 2 parts of gallic acid in 650 parts of distilled water, and add 2 parts of caustic lime, previously slaked. Having stirred the mixture well, filter it and keep it in well-closed bottles.

b. Dissolve 20 parts of nitrate of silver in 650 parts of water.

For use mix equal quantities, by weight, of the two solutions, and add enough stronger water of ammonia until the solution has become clear.

The silver is reduced in this solution already at ordinary temperatures, particularly under exposure to light. By warming or heating, the reduction may be greatly accelerated; but this is, as a rule, unnecessary, or even objectionable, if a firm coating of silver is desired.

No. 1,168.—**Ink for Writing on Glass** (X.).

This correspondent states that an ink is for sale which is to be used with a steel pen, for writing on glass, and which, in a few seconds, removes the polish and looks like etching or engraving.

We do not know this ink, and shall be glad to learn something about it from any of our readers.

Meanwhile, we may state that an ink of this kind can be made by dissolving in commercial strong hydrofluoric acid enough gum arabic to make the liquid flow readily from a pen without being viscid, and to color it with cudbear or some other coloring matter which will stand an acid, so that the writing may be visible to the eye. The solution must *not* be made in a glass vessel, but is best made in a rubber bottle such as hydrofluoric acid is sold in. When a portion is poured out, it should be poured into a platinum or lead vessel, or into a rubber nipple set up in a small wide-mouthed bottle. Care should be taken that the acid be not brought in contact with the skin, as it is liable to produce painful and troublesome sores. A steel pen may be employed with this, or you may use a platinized steel pen. Another way, perhaps, would be to make a thin paste of finely-powdered fluoride of calcium and strong sulphuric acid; in this case, of course, a plain iron or steel pen will not do.

No. 1,169.—**Nickel-Plating** (B. F. B.).

Nickel can be separated by the galvanic current from any neutral solution; but, as soon as the liquid becomes acid (owing to the withdrawal of the base), the reaction ceases. To obviate this, an arrangement is made to cause the liquid to preserve its neutrality constantly. This is accomplished by using an anode (or pole) made of metallic nickel. It has also been found that the best nickel-salt for plating purposes is the double sulphate of nickel and ammonium, which is easily obtained pure. This salt is dissolved to saturation in pure water, at a temperature between 20° and 25° C. (68°–77° F.); and this temperature, which is the most suitable for producing a uniform and firm deposit, must be maintained during the whole process. Another good plating-liquid is that proposed by Powell, namely, 90 gm. of sulphate of nickel, 25 gm. of citrate of nickel, 15 gm. of benzoic acid, and 4 liters of water. The nickel anodes should be selected of as large a surface as possible, particularly if the galvanic current is weak.

Brass may be nickel-plated, according to Stolba, without a battery, by boiling first in a solution of chloride of zinc containing metallic zinc, and then adding a soluble nickel-salt.

Nickel-plating, as a rule, requires a strong current. The details of preparing articles to be plated, and of carrying out the whole process, cannot be given here, for want of space. We would refer you to Hartleben's *Elektrotechnische Bibliothek*, vol. vii.; Eduard Japing, *Die Elektro-*

lyse, Galvanoplastik und Reinmetallgewinnung, 8vo, Wien, 1883.

No. 1,170.—**Smelling Salts** (J. S. C.).

You will find an answer to your query in our last May number, p. 153.

No. 1,171.—**To Render Turned Wood Boxes Impervious to Grease** ("Apprentice").

The simplest way to do this is to coat the inside of the box and lid with melted wax or paraffin. This must be applied without the slightest pin-hole, so as to form a plainly visible coating. Mere immersion or boiling the boxes in melted wax or paraffin will not do, for, if you try a wood box thus treated with a severe test—say, by pouring olive-oil into it—you will find that the oil penetrates the bottom at once. At this part, all the cells of the wood are vertical, permitting the oil to pass through innumerable channels to the outside of the bottom. At the side, there is much less tendency to ooze through.

In place of wax or paraffin, a strong solution of glue or gelatin—such as is described in our last number under the heading of "The Gelatin Bandage," may be used for coating the inside (p. 269). It renders the glue still more insoluble if a small amount of bichromate of potassium is added while the glue is fluid, and, after its application, exposing it to sun-light.

No. 1,172.—**Convallaria Majalis** (J. F. K.).

You will find the desired information on Convallaria majalis in this journal as follows: 1882, November, p. 330, 337; 1883, March, p. 89; April, p. 121; May p. 142.

No. 1,173.—**Bleaching and Coloring Sea-Mosses** (C. C. W.).

These may be bleached in the same manner as sponges, by the method described by us in our July number, pages 213-214. Before bleaching, they should be sun-dried, and should be freed from dirt and foreign matters.

Or they may be bleached by means of a weak solution of chloride of lime and water.

Or, finally, by solution of peroxide of hydrogen, which may now be had for technical purposes in any desired quantity.

No. 1,174.—**Syrup of the Hypophosphites** (J. F. H.).

We cannot give you the precise formula of the proprietary syrup of hypophosphites you inquire about, for the simple reason that it is kept secret by the manufacturer, who states so himself, and adds that it is entirely different both in its effects and composition from all other syrups of hypophosphites.

We think you should dissuade the physicians of your acquaintance from prescribing preparations of unknown composition, more particularly as the new U. S. Pharm. puts at your disposal a very elegant syrup of hypophosphites (of calcium, potassium, and sodium) and a syrup of hypophosphites with iron, which leave nothing to be desired, and can be prepared by any pharmacist at a short notice.

No. 1,175.—**Culture of Currants** (Grower).

Besides numerous articles scattered through periodicals (such as *The Garden*, *The Gardener's Chronicle*), there has appeared recently (so far as we know) only one treatise on the culture and management of currants, namely, by E. Regel. It is a pamphlet of 24 pages, in 8vo, with eight woodcuts, and was published in St. Petersburg during the current year. It is printed in Russian, but you will have no difficulty in having it translated here for your use.

No. 1,176.—**To render Bone (and Ivory) Permanently White** (E. W. B.).

In addition to the information furnished by us in answer to a former query, we can now communicate another method lately published by E. Puscher (in *Kunst und Gewerbe*). The bones, or articles manufactured from bone or ivory, having previously been cleaned by the usual methods, and having been shaped and finished ready for polishing, are immersed in a solution of oxide of zinc in ammonia, and then adding just enough sulphate of copper to render the liquor bluish. The bones take up some of the dissolved oxide of zinc, which would, however, render them, when dry, yellowish white. This objectionable tint is overcome by the copper, which produces the same effect as bluing does to starched fabrics.

The solution is prepared in the following manner: 25 parts of pure oxide of zinc are intimately mixed with 40 parts of water, and 50 parts of commercial, concentrated hydrochloric acid gradually added, whereby nearly the whole of the oxide is dissolved. 150 parts of hot water are next added, and finally, under constant stirring, enough ammonia to *nearly* re-dissolve the hydrated oxide of zinc first precipitated. Enough solution of sulphate of copper is then added to render the liquid bluish. [We presume that a solution of 25 parts of sulphate of zinc in 200 parts of water, and treated with ammonia as above stated, would answer the same purpose.]

No. 1,177.—**Contraction of Volume on Mixing Glycerin and Water** (B. F. J.).

When water and glycerin are mixed, the volume of the mixture undergoes contraction, owing to the formation of hydrates of glycerin. The maximum of contraction, according to A. Emo (*Beibl. Ann. Phys. und Chem.*, 1883, 349), occurs in a mixture of 43 parts of water and 57 parts of glycerin.

Information wanted by some of our correspondents:

1. Composition of Pott's Powder, "a non-proprietary laxative powder used in the Eastern States."
2. Composition of "Rex Magnus," a preparation sold for preservation of food, etc.
3. Wei de Meyer's Catarrh Cure.

Answers in Exchanges.

THE DRUGGIST.

Depilatory.—Sprinkle over 100 parts of good quicklime, about 50 parts of hot water, and, when slaked, triturate with 200 parts of cold water. Place in a suitable flask, and pass into it the hydrogen sulphide generated from 200 parts of sulphide of iron and 200 parts of sulphuric acid gradually introduced into the generator. This preparation must be immediately placed into small vials, and securely sealed; but even then it will lose its virtues after a few weeks. This was originally recommended by Bœttger, but is sometimes known as "Martin's Depilatory." This paste is to be spread over the hairy skin to the thickness of one-sixteenth of an inch, and allowed to remain for ten minutes, when it is to be removed with a wet sponge. When allowed to remain too long, bad sores are apt to result.

Another, known by the Turkish name "Rusana," is composed of 50 parts of quicklime, 30 parts of starch, and 5 parts of orpiment. This is to be made into a paste with water, and employed in the same manner as the foregoing.

[Of late years, dermatologists have resorted to a method for removing hairs which is less likely to be followed by disfigurement, and is more radical in its effects, though involving more labor, and requiring the aid of a skilful person. A fine platinum needle mounted in a suitable handle serves as one electrode for a galvanic battery, the other electrode being a moistened sponge. The sponge is placed upon any convenient part of the body, and a single hair, being grasped with forceps, serves as a guide to direct the needle to the bottom of the hair follicle. After the needle has been introduced, connection of the galvanic circuit is made, and, after a few minutes, the root of the hair is destroyed by electrolysis, as shown by the escape of gas and by loosening of the hair, which comes away in the grasp of the forceps.

Dr. L. D. Bulkley, of New York, has proposed another method (see NEW REMEDIES, 1881, p. 157), which consists in applying to the skin an adhesive plaster made in the

form of a roll which adheres to the hairs, and, on being rolled across the surface, pulls them from their sheaths.

The latter method does not prevent the subsequent reproduction of the hair.—ED. N. R.]

Fruit-Coloring.—Quite frequently, an alcoholic solution of rosaniline is dispensed for coloring sauces, puddings, cakes, etc., but (owing to the possible presence of arsenic) should be deprecated. An article similar to what is known as "Gillet's Fruit Color" is made of 60 grains of No. 60 carmine, 2 drachms of water of ammonia, 3 ounces of water, and 1 ounce of alcohol. Dissolve the carmine in the water with the aid of the ammonia, then add the alcohol, and allow it to stand until it is clear and bright.

Glass Labels.—When, as will sometimes occur in sudden change of weather, or from age, glass bottle-labels drop off, leaving the resinous layer, together with the lettering, adherent to the bottle, it may again be fastened by painting the glass and label with concentrated solution of white shellac, and holding the glass in place for a few days by means of an elastic band.

To Liquefy Kennedy's Pinus Canadensis.—The addition of glycerin and heating on a water-bath is said to be effectual, allowance being made afterwards, of course, for the percentage of glycerin when it is dispensed. Another and somewhat doubtful method is the addition of alcohol.

Syrup of Coffee, as used to disguise the bitter taste of quinine, can be made with coffee, roasted and finely ground, 4 oz.; alcohol, 1 oz.; sugar, 12 oz.; boiling water, sufficient. Pack the powder firmly into a percolator provided with a cover, and pour on boiling water until eight fluid ounces of percolate are obtained. Then dissolve the sugar [in the percolate] by percolation, and finally add the alcohol as a preservative. The taste of two grains of quinine is said to be pretty well covered by a drachm of the syrup.

Grubs in Almonds, Etc.—The insects which are apt to infest almonds, ergot, etc., may be destroyed by placing the drug in a stoppered fruit jar or tin canister, pouring on a small quantity of chloroform, and allowing it to stand for some time. Subsequent exposure will allow the chloroform to evaporate, and the drug will be uninjured.

Solution of Apomorphine.—In compounding the following it was noticed that the apomorphine became a sticky mass, refusing to dissolve when stirred with the acid:

Apomorphine, 1 gr.; dilute hydrochloric acid, 4 dr.; water, 12 dr.

This behavior is a peculiarity of apomorphine; unlike most other alkaloids, it becomes insoluble in acid liquids, so that in the composition of the above, the acid should have been added after the solution of the apomorphine in the water. To reclaim the apomorphine when the reverse method has been attempted, pour off the dilute acid, dissolve in the water and then add the acid.

"Succus Alterans" (McDade) is said to be made from the following, fresh drugs being employed:

Fluid extracts of sarsaparilla, stillingia, burdock, and poke-root, of each 2 oz.; tinct. xanthoxylum, 1 oz. Dose, a teaspoonful, increased to a tablespoonful, before each meal. Said to have been based upon a decoction long used by southern negroes as a remedy for syphilis.

Corn, Wart, and Bunion Cure.

MIX 3½ fluid ounces of alcohol with 12½ fluid ounces of sulphuric ether, and in it dissolve 200 grains of guncotton (pyroxylin). This will require a day or two for solution, and then add to it 2 oz. (avoir.) of salicylic acid, and, when this is dissolved, 1 oz. (avoir.) of chloride of zinc. Keep it tightly stoppered and away from light or fire.—*The Formulary.*

BIBLIOGRAPHY.

ANATOMY, DESCRIPTIVE AND SURGICAL. By HENRY GRAY, F.R.S., etc., with an Introduction on General Anatomy and Development, by T. HOLMES, M.A. Cantab. The Drawings by H. V. CARTER, M.D., with Additional Drawings in Later Editions. Edited by T. PICKERING PICK. A New American from the Tenth English Edition. To which is Added Landmarks, Medical and Surgical, by LUTHER HOLDEN, F.R.C.S., with Additions by WILLIAM W. KEEN, M.D. Philadelphia: Henry C. Lea's Son & Co., 1883, pp. 1,023, royal 8vo.

THIS is practically a reprint of the edition of 1878, since when two English editions have appeared, and slight changes only have been needed. The editor of the American edition, Dr. R. J. Dunglison, has made such typographic changes as may add to its usefulness, and a few illustrations have been inserted in the preliminary portion. It is hardly to be anticipated that any new bones have been discovered, or that since the incorporation of the preliminary and concluding portions much could be added to a work already beyond comparison as one fitted for any of the purposes to which an anatomical treatise can be put. No student here is content, at the present day, with any other guide, and few physicians can afford to be without it.

HANDWÖRTERBUCH DER PHARMACOGNOSIE DES PLANZENREICHS. Von PROF. DR. G. C. WITTSTEIN. ("Dictionary of Pharmacognosy of the Vegetable Kingdom." Formerly a Section of the "Encyclopædie der Naturwissenschaften," published by Ed. Trewendt, of Breslau.

WE have to acknowledge the receipt, from the publishers, of parts 5, 6, and 7 of the above work, which bring it to conclusion. Our previous estimate of the high value and practical usefulness of the work is fully borne out by the numbers before us, which, indeed, betray an increased amount of care, a conscientious and critical use of the available literature, and a large amount of independent research and observation on the part of the author. Of special value will be the descriptions of numerous rare exotic drugs, regarding which it is often difficult to gather or find information.

The work is provided with two appendices, namely, 1. A list of the natural families and genera, arranged after Karsten's system, treated of in the work. 2. A classification of the drugs treated of, according to the parts of plants from which they are derived, or which form the drugs. And, finally, there are added three alphabetical indexes: 1. Of the German and other vulgar names. 2. Of the officinal Latin names of the drugs. 3. Of the systematic genus and species names. This last-named list is one which will have to be constantly consulted, since it will be easier to look up the scientific Latin name than to search in different parts of the work to ascertain under what German name the author has described the plant.

Regarding the etymological derivations given by the author, we have already once expressed our views, and would add that the author has been much more cautious in the latter parts of the work than in the former. It is, however, a thankless field at best, since we are, in many cases (especially of classic names), absolutely without a clew of help, and can only trust to a guess.

THE VEGETABLE MATERIA MEDICA OF WESTERN INDIA. By W. DYMOCK, Surgeon-Major Bombay Army; Principal Medical Storekeeper to Government; Late Professor of Materia Medica, Grant College, Bombay, etc., etc. Part II. 8vo. Bombay, 1883. Pp. 161–328. (To be completed in 4 parts at 2 rupees each.)

THE first portion of this work has been noticed by us in our last July number (p. 218), and already we are in receipt of the second. A more careful and repeated examination of the first part and a rather cursory of the second convinces us that we are here presented with a work of importance and authority of the first rank. The careful

and painstaking researches of the author, either by personal observation and study of the drugs, or by consulting the most authentic original sources throwing light upon their history and properties, form such a prominent feature of the work that there are but few that can be placed in the same rank. While the author professes to treat only of those drugs which are met with in the Bombay market, yet many of these also occur in the markets of Eastern India, and his descriptions apply equally well there. But there are many drugs used in Bengal, the northwestern provinces, the Madras Presidency, etc., etc., which are but little, or not at all, used elsewhere, and in the case of some commonly used drugs the commercial usages differ so much that it would be of the greatest advantage if some competent authority could undertake their study and description; and if Prof. Dymock himself could undertake this, after the completion of his present work, the matter could not be in better hands.

SOME few weeks ago we received a copy of *A Catalogue (Revised) of Indian Drugs, Examined and Reported on by W. Dymock, B.A., in the "Pharmaceutical Journal."* (Arranged, Revised, and Corrected for Indian Synonyms by *Pandurang Gopal, G.G.M.C.*). 8vo. Bombay, 1883;

which was printed at the Education Society's press, Byculla, the same which prints Prof. Dymock's work. The preface is dated January 15th, 1883, and the work gives the Marâthî, Gujarâtî, and frequently other Indian names (int he Devanâgarî and Gujaratî characters). When this catalogue was printed, it was only known that Prof. Dymock's notes would be published at some future time in a connected form. It is to be regretted now that the author's undertaking was not delayed until after the completion of Prof. Dymock's work. We have no doubt it would have been made more useful, and possibly have been more free from orthographical (or typographical?) blunders than it is now.

But this catalogue has shown us again the necessity of so constructing an index of native Indian names that it will be of lasting and practical benefit to all, including Oriental scholars. Only those who have wrestled with the enigmas presented by Watson's Index to the Native and Scientific Names of Indian, etc., Plants and Products will fully realize the importance of having the transliterated name accompanied by the same word printed in the corresponding Oriental type. For Sanskrit, Marâthî, and some other languages, where the transliteration can be made to cover the original exactly, this is not so necessary; in the case of other languages, where the transliteration actually gives the real pronunciation better than the original character would (as in Gujarâtî, Bengâlî, etc.), it might be omitted likewise, provided the system of transliteration is clearly indicated. But in the case of Arabic and Persian, at least, the original characters should always be added, to prevent doubt and ambiguity.

If at all feasible, we would strongly urge upon Prof. Dymock the adoption of this plan in constructing his index. He would thereby earn the thanks of many friends of Oriental literature.

Albany College of Pharmacy.—At a meeting of the Board of Trustees of the Albany College of Pharmacy, held September 12th, 1883, Alfred B. Huested, M.D., of Albany, was appointed to the Professorship of Botany and Materia Medica, to fill the vacancy created by the death of Professor Jacob S. Mosher. Dr. Huested has been a trustee of the college since its organization, and has been for years thoroughly identified with the profession of pharmacy in this State.

At the same meeting, John M. Bigelow, M.D., of Albany, was elected a trustee of the college, to fill the vacancy created by Professor Mosher's death; and a Board of Examiners, consisting of Louis Sautter, Archibald McClure, and Charles H. Gaus, was appointed.

The college opens October 1st. A large entering class is expected.

NEW PATENTS.

Complete specifications and illustrations may be obtained of any one or more of the following patents by sending the number, title, name of patentee, with twenty-five cents fo each copy, to the Commissioner of Patents, at Washington, D. C., together with the name and address of the person requesting the same.]

282,144. *Syringe Piston.*—John B. Wortham, Winchester, Va., assignor of one-half to George S. Crane, same place. A piston composed of two inverted cup-shaped members placed base to base upon the piston-rod and secured thereon, combined with an adjustable wedge or cone, movable with the upper member of said piston, to expand said piston.

282,178. *Apparatus for Administering Nitrous Oxide Gas.*—James A. Donaldson, Greenville, Pa.

282,190. *Ozone Apparatus.*—Henry D. Hall, New York, N. Y.

282,195. *Disinfecting Apparatus.*—Frederick H. Hubbard, Brooklyn, N. Y., assignor to himself and Hiram F. Beebe, same place.

282,211. *Machine for Cleaning Flax-Seed.*—Lyman Morgan, Port Washington, Wis.

282,239. *Oil-Still.*—Joshua Thomas, Cleveland, O.

282,264. *Manufacture of Surgical Lint.*—Wm. T. Browne, Orange, N. J. The process of converting worn fabric into a sheet of lint, to wit, of withdrawing the weft threads through the warp, and at the same time scraping or abrading said warp, and packing the abraded fibre—or loose fibre resulting from the scraping process—with said weft and the remaining warp.

282,268. *Truss.*—John C. Calhoun, New Brighton, Pa.

282,342. *Furnace for Distilling and Carbonizing Wood.*—Jean A. Mathieu, Philadelphia, Pa.

282,390. *Thermometer.*—Joseph Grandison Smith, Quincy, Ill.

282,398. *Apparatus for the Distillation of Ammoniacal Liquors.*—Oscar A. Stevens and Edmund L. Du Barry, Washington, D. C.

282,431. *Electro-Therapeutic Apparatus.*—Abiel W. K. Andrews, Binghamton, and Cyrus R. Teed, Syracuse, N. Y.

282,481. *Apparatus for Filling Bottles with Aërated Beverages.*—Albert Albertson, Jersey City, N. J., assignor to Elizabeth Matthews, John Matthews, and Geo. Matthews, New York, N. Y.

282,491. *Club-Foot Apparatus.*—James Burns, Chicago, Ill.

282,547. *Process of and Apparatus for Decomposing and Transforming Fatty Substances into Fatty Acids and Glycerin.*—William F. C. M. McCarty, Berlin, Ger.

282,590. *Urethral Stricture Instrument.*—Park B. Tucker, Hamilton, Bermuda.

282,624. *Manufacture of Fabrics for Medical and Surgical Dressings.*—Sampson Gamgee, Birmingham, County of Warwick, assignor to William Bradbury Robinson, Wheat Bridge Mills, New Brampton, England. Consists of thoroughly bleached absorbent cotton, compressed between two thoroughly bleached muslin fabrics free from stiffening.

The manufacture of surgical splints or supports from the above-described fabric, saturated with plaster-of-Paris or other material, and moulded on a form, upon which it sets and hardens.

282,633. *Process of Producing a Perfumed Soap Alkali.*—Thomas S. Harrison, Philadelphia, Pa.

282,650. *Splint.*—Robert Le Baron, Pontiac, Mich.

282,769. *Liniment.*—John Quinlan, Denver, Col. Consists of oils of amber, juniper, spike, cedar, hemlock, and origanum, raw linseed oil, white whale oil, oil of tar, and black lubricating oil, tinctures of stramonium seed,

iodine, aconite root, belladonna, opium, cantharides, ginger, assafœtida, spirit of turpentine, water of ammonia, camphorated alcohol, sulphuric ether, and sulphuric acid.

282,878. *Manufacture of Anhydrous Alumina.*—Felix Gardair and Thadde Gladysz, Marseilles, France.

282,898. *Medicine for Dyspepsia.*—James M. Jacobs, Bluff Creek, Ind., assignor to J. M. Jacobs & Son, same place. Composed of extracts of the barks of white walnut, dogwood, and cherry, New Orleans molasses, and spirits.

282,949. *Hog Cholera Remedy.*—Edward W. Be Vier, Chandlerville, Ill. Consists of tobacco and may-apple root.

282,950. *Anal Speculum.*—Alban B. Bottsford, Grand Rapids, Mich.

282,974. *Bottle.*—George S. Fairchild, Brooklyn, N. Y., assignor of two-thirds to Frederick Fairchild and Lewis Herring. Provided with a neck containing a reduced discharge-passage and an open base, through which the bottle may be filled, and capable of being sealed with a screw cap or stopper.

283,003. *Apparatus for Distilling.*—William F. C. M. McCarty, Berlin, Germany. May be used for alcohol, oil, chemicals, etc. Employment of superheated steam and vacuum. A distilling vessel provided with a dome in which a continuous vacuum is maintained, a perforated diaphragm or sieve below said dome, and pipes leading from the bottom of the still, and discharging through noses above the diaphragm.

283,029. *Cough Syrup.*—Samuel R. Scoggins, Baltimore, Md. Consists of maple sugar syrup, California brandy, extracts of buchu, wild-cherry, hoarhound, and sarsaparilla, spirit of nitrous ether, and paregoric.

283,060. *Portable Soda-Water Apparatus.*—Benjamin F. Bailey, Manchester, N. H., and Geo. H. Griffin, Wareham, Mass.

283,080. *Hog Cholera Remedy.*—David D. Cooper, Plainfield, Ind. Composed of sulphur, soda, madder, saltpetre, black antimony, gum camphor, capsicum, and calomel.

283,137. *Apparatus for Administering Nitrous Oxide Gas.*—Laird W. Nevins, Toledo, O.

283,147. *Extract of Meat.*—John Robertson, Pottsville, Pa. "The herein-described tonic compound, consisting of the combination of animal brain and spinal marrow, lung tissue, heart, liver, kidney, pancreas, stomach, and sugar."

283,199. *Operating Table.*—Alexander W. Brinkerhoff, Upper Sandusky, O.

283,266. *Process of and Apparatus for Treating Fats and Oils for Obtaining Fatty Acids.*—Wm. F. C. McCarty, Berlin, Germany, assignor to Arthur Marix, St. Petersburg, Russia

283,313. *Machine for Bottling Powders.*—Chas. G. Wiltse, New York, N. Y.

283,478. *Surgical Bandage.*—Samuel M. Furman, Henderson, Ky., assignor of one-half to William H. Lewis, same place. A surgical hollow bandage formed of flexible material, divided into pockets, and filled with a compound made of plaster-of-Paris and chloride of sodium or sulphate of potassium.

283,508. *Manufacture of Alkalies.*—Edward W. Parnell, Liverpool, County of Lancaster, England, assignor of one-half to James Sampson, same place. Treating crude or impure alkaline solutions, made according to the Leblanc process, with a solution consisting of zinc, or zinc oxide, or both, dissolved in a solution of caustic alkali.

283,544. *Vacuum Apparatus.*—Edward Weston, Newark, N. J., assignor to the United States Lighting Co., New York, N. Y.

283,545. *Vacuum Pump.*—Edward Weston, Newark, N. J., assignor to the United States Electric Lighting Co., New York, N. Y.

283,549. *Apparatus for Producing Vacuums.*—Edward Weston, Newark, N. J., assignor to the United States Electric Lighting Co., Newark, N. J.

583,567. *Apparatus for Branding Corks.*—Prosper Chenet, Paris, France.

283,781. *Lever Cork Screw.*—Carl Friedrich Albert Wrenke, Rostock, Mecklenburg, Germany, assignor to Rudolph Dolberg, same place.

LABELS.

July 31st, 1883.

"*Cito*" *Catarrh Snuff.* Luther S. Fish, Cleveland, Ohio.

"*Cream of Beauty.*" (For a cosmetic.) Madeline Latour, New York, N. Y.

"*Crown Brican.*" (For a medicine.) Farrington & Co., Chicago, Ill.

"*Fruitaline.*" (For a chemical compound.) Marietta Nelson, Jersey City, N. J.

"*Goodwin's Oatmeal Bitters.*" Frank W. Goodwin, Framingham, Mass.

"*Injection de Mandolena by Dr. Mills.*" J. C. Mills, New York, N. Y.

"*St. Jacob's Tonic.*" St. Jacob's Bitters Co., Cincinnati, Ohio.

"*Yerba Santa.*" (For a medicine.) Farrington & Co., Chicago, Ill.

August 7th, 1883.

"*Allen's Oriental Balm.*" (For a cosmetic.) George L. Burnside, Bellows Falls, Vt.

"*Dr. Rudd's Celebrated Flux Specific.*" J. F. Rudd, Jacksonville, Tex.

"*German Stomach Powders.*" Jacob J. F. Popp, Harrisburg, Pa.

"*Randall's Pocket Case of Homœopathic Medicines for Travellers and Families.*" Leander P. Randall, Philadelphia, Pa.

"*Uncle Sam's Nerve and Bone Liniment.*" Emmert Proprietary Co., Chicago, Ill.

August 14th, 1883.

"*Doloricide.*" John H. Wright, Brooklyn, N. Y.

"*Dr. Green's Blood Purifier.*" G. S. Green, East Fairview, Vt.

"*Dr. Lyons Powders.*" George M. Fiske, Peekskill, N. Y.

"*Eureka Hoof Ointment.*" Rehrig & Coons, Catasauqua, Pa.

"*Metho-Glycerole of Bismuth and Hydrastia.*" Chapman, Green & Co., Chicago, Ill.

"*Simpson's Uterine Suppositories.*" William T. Ross, Louisville, Ky.

"*Victor Ointment.*" Ausman & Witherstine, Herkimer, N. Y.

"*Victor Syrup.*" Ausman & Witherstine, Herkimer N. Y.

"*Ware's Common Sense Suspensory Bandage.*" Charles F. Ware, Camden, N. J.

August 21st.

"*Antidotine.*" Edward Weeman, Boston, Mass.

"*Dr. Henry's No. 2 Vigor Pills.*" Wm. H. Harrison, New York, N. Y.

"*Dr. Sequard's Vegetable Panacea.*" Mary M. Merrill, Boston, Mass.

"*Druid Oil.*" Thomas McGowan, Cleveland, Ohio.

"*Finlan's Dyspepsia and Liver Cure.*" J. P. Finlan, Camden, N. J.

"*Finlan's King of Pain.*" J. P. Finlan, Camden, N. J.

"*Morse's Compound Cough Syrup.*" Charles H. Morse, Nolliston, Mass.

"*Queen of the Forest.*" J. P. Finlan, Camden, N. J.

"*Young's German Botanic Bitters.*" F. H. Young & Co., Miamisburgh, Ohio.

Sad Accident.—While a doctor was visiting a women in Rowlandsville, Pa., two children poured a pint of molasses into his silk hat, which he didn't notice till he had put the tile on his head. Language cannot describe his feelings, but it is said he will petition the next legislature to pass a bill making it a criminal offence for a child to be born under twelve years of age.—*Norristown Herald.*